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EDITORIAL NOTE

> "When I sit down to write a book, I do not say to myself, 'I am going to produce a work of art.' I write it because there is some lie that I want to expose, some fact to which I want to draw attention, and my initial concern is to get a hearing."

George Orwell, *Why I Write*

Legal scholarship, in varied ways, does exactly that, which is why it is still a bastion of the law and is still vital to the continued relationship of law and society. It sheds light on particular issues, creating dialogue between lawyers, judges and policy makers, causing us to think more critically. Writing also gives voices to the oppressed, and by speaking out against injustice, we create ripples in the fabric of society. It leads to shifts in legislative policy, making our leaders and entrepreneurs aware of the pulse of the people. The only way for a society is to progress is by entertaining contrasting perspectives, each holding the other accountable. My ultimate vision is that of a society where we are free to have different views and one where we constantly challenge ourselves to accept new ideals.

With that, I'm extremely proud to present the thirteenth volume of the NUALS Law Journal. I thank the University, the Board, the authors, and the professors who were involved in this process. By the efforts of this year's Editorial Board, we have now switched to an online edition and codified the process of selecting the Board. A lot of hard work, intellectual discussions, and free exchange of ideas contributed to this journal. My hope for the journal, going forward, is that it should always seek to achieve newer and greater heights and keep the spirit of legal scepticism alive.

On behalf of the Board of Editors,

SHEERENE MOHAMED
CHIEF EDITOR

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LAW, POLITICS, AND THE BHOPAL TRAGEDY: CONTRASTING AMERICAN PERSPECTIVES AFTER 35 YEARS†

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This article reappraises the Bhopal gas leak of 1984, still history's most tragic industrial accident. After considering the cases brought in U.S. and Indian courts, the two authors devote special attention to the contrasting American perspectives that have developed over time on how the U.S. and Indian legal systems handled the Bhopal case. The article concludes with thoughts on the lessons of the Bhopal experience for domestic and international law and environmental policy.

† This article draws on a lecture on International Law and Development: Bhopal, delivered by Professor Bunck on Semester at Sea on October 24, 2018, and a lecture on Foreign Investment, delivered by Professor Fowler on October 25, 2018, at the National University for Advanced Legal Studies in Cochin, India.

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I. INTRODUCTION

For Indian and American scholars and practitioners in law and politics, the historical lessons of foreign investment have never been more relevant. In today's global economy, the Indian and American economies stand out for their size, growth, and diversity, each engaging in considerable foreign investment. In October 2018, the Reserve Bank of India reported that India's outward foreign direct investment (FDI) had reached a cumulative stock of 155 billion (U.S.) dollars.[1] Indeed, Indian businesses have nearly $18 billion invested in various projects in the United States alone.[2] Lawyers in both countries routinely represent companies investing abroad, while national, state, and local officials in India and the U.S. oversee the activities of an array of foreign investors.

Scores of companies from both countries search avidly for promising opportunities to open branches or establish subsidiaries abroad. These foreign investors are looking to add to their business and profits, to enhance their share of the global market, or to enter established or emerging markets. Companies might want to take advantage of labour abroad—inexpensive or skilled. They might look to avoid import taxes in a market country, or establish factories close to raw materials.

India, the U.S., and many other governments now want to attract foreign investment, so long as the contribution made to their economies and societies is, on balance, positive.

Most government officials do not want to leave the impression that foreign businesses are not welcome or that they will be regulated so heavily that it will be impossible to earn money. Potential target companies may be courted by multiple countries. And, those less-experienced in international deal-making may be skittish about foreign investment.[3] Laws and risks may differ; uncomfortable cultural clashes may occur; governments may function in ways that the company finds unusual. A business may fear natural disasters, political violence, or fluctuating currency rates. Future changes in government administrations or regimes might bring on new laws or a different political or business climate. In such a context laws or regulations that unduly burden a foreign company could be the culminating factor that brings a business to reject a foreign-investment opportunity.

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[1] India Brand Equity Foundation, *Indian Investment Abroad - Overseas Direct Investment by Indian Companies*, https://www.ibef.org/economy/Indian-investments-abroad (last visited Aug. 16, 2019).

[2] *Id.*

[3] For the following points in this paragraph, see Jeswald Salacuse, *Making Deals in Strange Places: A Beginner's Guide to International Business Negotiations*, 4 NEGO. J. 5, 6-10 (1988).

As foreign investment has become ever more integral to the functioning of many national economies, governments want to exercise appropriate control over foreign investors. Yet, officials looking to contribute to their country's economic growth often find it quite challenging to write useful laws governing foreign investment, while ensuring that their legal system does justice to national citizens and foreign investors involved in disputes.

However, the record of regulation of foreign investment has been imperfect. Some states have ended up over-regulating—tying up foreign investment in particular industries with too many extraneous laws or regulations. Others have under-regulated: they have overlooked the need to pass necessary laws, brought to bear insufficient regulation and ineffective laws, or lapsed into inadequate enforcement of existing laws.

Indeed, governments trying to draw the line between under- and over-regulation are embarking on an often perplexing task. This is especially since that line is not a permanent one. Officials need to be constantly responding to shifting outside factors. Past practices might quickly become obsolete. Advances in technology might require new regulations. The changing economic policies of other competing governments might call for adjustments in law.

Challenging for any country, such regulation can be especially problematic in the developing world. Paul Shrivastava, a native of Bhopal who holds the Scott Chair in Management at Bucknell University, argued: "In developing countries the lack of resources, unskilled staff, poor technical knowledge, and rampant bureaucratic corruption are endemic. These further erode the ability of financially deficit governments to monitor plant safety levels. The lack of resources also makes developing countries particularly susceptible to human losses due to industrial crises."[4] He went on to note: "Financial resources are required to manage the expensive social problems associated with industrialization. But developing countries are not wealthy, and basic services in the areas of health, education, transportation, and energy have taken budgetary preference over environmental, consumer and worker protection, because such services have greater political importance."[5]

The process of attracting foreign investors and regulating foreign investment can also be distorted by corruption: pay-offs from wealthy, unscrupulous company agents to government officials to encourage them to ignore their duties. And, while some countries have extra-territorial laws that attempt to eliminate or curb bribery by employees of companies headquartered in their state when they act

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[4] PAUL SHRIVASTAVA, BHOPAL: ANATOMY OF A CRISIS 18 (2d ed., 1992).

[5] *Id.* at 24.

abroad,[6] other countries lack strict laws. Still others do not have strong records of enforcing such laws.

Then, even absent bribery or kickbacks, the wealth and influence of multinational companies (MNCs) can distort political processes. While this could happen in any state, it is a particular problem in developing countries that lack effective government policymaking, a smoothly functioning legal system, or a strong civil society to act as a watchdog. These various factors underscore that, while foreign investment has often stimulated growth and development, some projects have brought trouble and, in certain cases, tragedy.

We come, then, directly to the gas leak at Bhopal, called "the most devastating industrial disaster in history,"[7] an unparalleled foreign investment catastrophe. Even thirty-five years later, the Bhopal tragedy demands attention, analysis, and re-appraisal from scholars and practitioners alike. This article focuses especially on the question what are the primary contrasting American perspectives on the manner in which the U.S. and Indian political and legal systems handled the Bhopal case?

II. THE BHOPAL TRAGEDY

At about 11:00 p.m. on the night of December 2nd, 1984, methyl isocyanate gas (MIC) started to leak from a storage tank at a chemical plant run by Union Carbide India, Ltd. (UCIL) in Bhopal, capital of Madhya Pradesh state. By 1:00 a.m. that night "loud rumbling reverberated around the plant as a safety valve gave way sending a plume of MIC gas into the early morning air,"[8] and prevailing winds blew it into densely inhabited portions of the city.[9] The company never did state exactly what was in the toxic cloud, but some experts have suggested that victims were killed by hydrogen cyanide.[10]

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[6] The operative U.S. law is the Foreign Corrupt Practices Act of 1977, 15 USC §78dd-1, et seq.

[7] *In re* Union Carbide Corporation Gas Plant Disaster at Bhopal, India in December 1984, 809 F.2d 195 (2d Cir. 1987), *cert. denied*, 484 U.S. 871 (1987).

[8] Edward Broughton, *The Bhopal disaster and its aftermath: a review*, 4 ENVTL. HEALTH: A GLOBAL ACCESS SCI. SOURCE 1 (2005), http://www.ehjournal.net/content/4/1/6 (last visited Aug. 16, 2019).

[9] *In re Union Carbide Corp. Gas Plant Disaster*, 634 F.Supp. 842, 844 (S.D.N.Y. 1986).

[10] Broughton wrote: "When MIC is exposed to 200° heat, it forms degraded MIC that contains the more deadly hydrogen cyanide (HCN). There was clear evidence that the storage tank temperature did reach this level in the disaster. The cherry-red color of blood and viscera of some victims were characteristic of acute cyanide poisoning. Moreover, many responded well to administration of sodium thiosulfate, an effective therapy for cyanide poisoning but not MIC exposure. Broughton, *supra* note 8. *See also* Sheila Jasanoff, *Symposium: The Bhopal Disaster Approaches 25: Looking Back to Look Forward: Bhopal's Trials of Knowledge and Ignorance*, 42 NEW ENGL. L. REV. 679, 685 (Summer 2008).

A. FOREIGN INVESTMENT IN PESTICIDES IN INDIA

As part of India's 'green revolution' in the 1960s, its government had promoted pesticide use, tripling sales between 1956 and 1970.[11] Union Carbide Corporation (UCC), at the time the seventh-largest chemical company in the U.S., served as the parent company to UCIL. Employing about 100,000 people UCC was incorporated in New York state, but was doing business in forty countries with assets and sales nearing $10 billion.[12] For approximately fifty years, UCIL had operated as UCC's subsidiary in India. Indeed, at the time of the accident it stood as the twenty-first largest company in India.[13] Incorporated under Indian law, UCIL made chemicals, fertilizers, insecticides, and plastics in fourteen plants employing more than 9,000 people. When the Bhopal leak occurred, UCC owned 50.9 per cent of UCIL stock.[14] The Government of India (Union of India, or UOI) owned 22 per cent of the remaining stock, which was traded on the Calcutta Exchange, with just over 27 per cent owned by approximately 23,500 Indian citizens.[15]

Bhopal had been chosen to host a UCIL plant because of its location in central India. The city featured relatively good transportation, but suffered from "primitive" industrial capacity.[16] In 1992 Shrivastava noted: "In the last thirty years industrial growth was encouraged in Bhopal, but the necessary infrastructure needed to support the industry was lacking."[17] He called Bhopal "a textbook example of a rapidly developing city that sought — and obtained— sophisticated Western-style industrialization without making a commensurate investment in industrial infrastructure or rural development."[18]

B. THE DESIGN, MANUFACTURE, AND OPERATION OF THE BHOPAL PLANT

The manner in which the Bhopal plant was designed, manufactured, and operated was eventually to play a central role in the political and legal controversies that

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[11] *Id.* at 30.

[12] SHRIVASTAVA, *supra* note 4, at 29. See also Daniel Barstow Magraw, *The Bhopal Disaster: Structuring a Solution*, 57 U. COLO. L. REV. 835 (1986).

[13] *See* SHRIVASTAVA, *supra* note 4, at 30, and Jamie Cassels, *Outlaws: Multinational Corporations and Catastrophic Law*, 31 CUMB. L. REV. 311, 314 (2000/2001).

[14] *See Union Carbide*, 809 F.2d at 197.

[15] *Id.*

[16] SHRIVASTAVA, *supra* note 4, at 3. See also Broughton, *supra* note 8.

[17] SHRIVASTAVA, at 3. He went on to specify: "There were severe shortcomings in the physical infrastructure, such as supplies of water and energy and housing, transportation and communications facilities, as well as in the social infrastructure, including public health services, civil defense systems, community awareness of technological hazards, and an effective regulatory system." *Id.*

[18] *Id.* at 47-48.

accompanied the tragic accident. Momentarily, we shall examine the lawsuits filed in the U.S. and India. For now, it should be noted that Judge Seth of the Madhya Pradesh High Court very much supervised and controlled what was happening at the Bhopal plant. A legal scholar summarized Seth's perspective as follows:

> *The parent company was the majority shareholder, and it controlled the composition of the board of directors and the management of the Indian company. It had control over technology and information, and the Indian company was entirely dependent in this regard on UCC. Most importantly, Judge Seth took a very different view than Judge Keenan had of the company's evidence that it took a hand-off approach to the Indian operation. 'If, as alleged by the defendant-UCC, it chose to follow the policy of keeping itself at arm's length from the Indian company in certain respects, it was entirely its choice and such policy could not absolve it from liability.*[19]

However, the U.S. District Court found evidence that led it to a diametrically opposed view of the relationship between UCC and UCIL. One important provision in a 1972 UOI-UCIL Letter of Intent required "the purchase of only such design and consultancy services from abroad as are not available within the country."[20] Furthermore, Ranjit Dutta, General Manager of the Agricultural Products Division of UCIL from 1973 to 1976, later testified that the Indian Government, "in a process of 'Indianization,' restricted the amount of foreign materials and foreign consultants' time which could be contributed to the project, and mandated the use of Indian materials and experts whenever possible."[21] Such matters eventually brought the U.S. Second Circuit Federal Court of Appeals to conclude: "India has considered the plant to be an Indian one and the disaster to be an Indian problem."[22]

Indeed, the Indian government had precluded UCC from exercising any authority to "detail design, erect, and commission the plant."[23] Consequently, during the decade or so of plant construction, ten to fifteen UCIL engineers, working primarily out of Bombay, oversaw the job a Bombay engineering firm and its team of about sixty Indian engineers did, performing the detail design work.[24] While

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[19] Cassels, *supra* note 13, at 329. A later U.S. case cast doubt on the assertion that UCC was controlling technology transferred to the UCIL plant. The U.S. District Court concluded that documents established that"UCIL elected to develop its own technology rather than using UCC technology." The Court quoted from UCIL's 1973 Capital Budget Proposal, stating: "The UCC process is unsuitable because it is based methane, which is unavailable at Bhopoal.... UCIL has elected to develop its own process ... with the help of an Indian-based consultant." *Sahu v. Union Carbide Corp.*, 418 F.Supp.2d 407, 413 (2005).

[20] *Union Carbide*, 634 F.Supp. at 863.

[21] *Id.*

[22] *Union Carbide*, 809 F.2d at 201.

[23] *Id.* at 200.

[24] *Union Carbide*, 634 F.Supp. at 856-57, and *Union Carbide*, 809 F.2d at 200.

UCC had delivered plans for the initial design of the Bhopal plant ("process design packages"), these set out general parameters and were not sufficiently detailed to construct a plant of this kind.[25] UCIL and its Indian engineers thus extensively modified the initial plans, changing the configuration and design of the plant in many ways. Sudhir Chopra commented: "This is a perfect example of a developing country seeking hazardous technology for much-needed development and then redesigning and modifying the technology according to the local needs and expertise."[26]

Examining the designs of the UCIL Bhopal plant producing MIC and the UCC plant that for decades produced MIC in Institute, West Virginia, brings a host of different features to light, each one of which made the plant in India more prone to a catastrophic accident than the one in the U.S.[27] For instance, the American plant had multiple processes to address problems, where the Indian plant repeatedly relied on one. The West Virginia UCC plant had four vent gas scrubbers, while Bhopal had one, and West Virginia had two flare towers, while Bhopal had one. This design, termed "in-built redundancy," enabled vent gas scrubbers and flare towers to be operational around the clock, rather than unavailable when shut down for repairs.

In the five years preceding the accident, a U.S. Federal Court found that only one American had been employed at the plant (from 1980 to 1982), as opposed to about a thousand Indians. It noted that, during the five years before the accident, UCC seldom communicated with the plant. In addition, not only were key parts of the plant manufactured in India, but the vast bulk of safety and other training for the plant's employees occurred in India. The appellate court noted: "The manual for start-up of the Bhopal plant was prepared by Indians employed by UCIL."[28] Thus, while 40 UCIL employees did get transported to the West Virginia UCC plant for training, over 1,000 employees were trained exclusively in India.[29]

In the United States, the West Virginia plant was poised to inform local police, hospital, and transportation authorities of an emergency, while no such arrangements existed in India. Indeed, after the accident Bhopal plant supervisor

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[25] *Union Carbide*, 634 F.Supp. at 856.

[26] Sudhir Chopra, *Multinational Corporations in the Aftermath of Bhopal: The Need for a New Comprehensive Global Regime for Transnational Corporate Activity*, 29 VAL. U.L. REV. 235, 242-43 (1994). Chopra continued: "Technology-importing countries modify plant designs to accommodate their growing developmental needs. These modifications are not always environmentally safe nor even economically sound. In India, the tendency is to adopt labor intensive methods and to create as many jobs as possible." *Id.* at 243, *supra* note 22.

[27] *See* Table 1 Comparative designs of Union Carbide MIC production plants in West Virginia, USA and Bhopal, India in T.R. Chouhan, *The Unfolding of Bhopal Disaster*, 18 J. OF LOSS PREVENTION 205, 206 (2005).

[28] *Union Carbide*, 809 F.2d at 200.

[29] *Union Carbide*, 634 F.Supp. at 858.

T.C. Chouhan charged, "The Plant superintendent did not inform outside agencies about the accident. Initially, he denied the accident, and then stated that MIC gas was like a tear gas and the effects would be temporary."[30] In India UCIL, not UCC, selected and employed the plant's employees. Chouhan argued, "MIC plant operating personnel did not have the qualifications and training that were necessary. Training had been reduced over the years ..."[31]

The site of the Bhopal plant had not been zoned for hazardous industry but for light industrial and commercial use.[32] Nevertheless, UCIL was permitted to lease the land from the Madhya Pradesh state. The reason may be that, originally, projected plant operations simply involved mixing different stable substances to create pesticides for sale. However, eventually, the Government of India approved, indeed requested, that UCIL manufacture the pesticides Sevin and Temik at the Bhopal plant.[33] MIC was not only the principal active ingredient in both pesticides,[34] but a highly unstable one that had "to be kept at low temperatures."[35] Furthermore, in response to enhanced competition in the chemical industry, UCIL opted to implement back-integrate—that is, "to manufacture pesticides, rather than just process them,"[36] "inherently a more sophisticated and hazardous process."[37]

So, in 1974 Indian authorities licensed the plant actually to manufacture pesticides, posing a greater danger of an accidental release of toxic gas.[38] As UCIL started to import component chemicals and produce more sophisticated pesticides, MIC became increasingly important to its operations. Furthermore, the hazardous wastes generated at the plant were dumped on site.[39]

C. THE RELEASE OF POISONOUS GAS

How, then, did the actual release of poisonous gas occur? According to T.R. Chouhan, a UCIL plant operator, water and catalytic material, such as iron and rust, entered a storage tank, causing 42 tons of MIC to become contaminated.[40]

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[30] *Union Carbide*, 809 F.2d at 208.

[31] *Id.* at 207. *See also* Figure 6 Duration of training programme for operators of UC plant, Bhopal. For negligent safety practices, employee cut-backs, and morale problems at the plant see SHRIVASTAVA, *supra* note 4, at 41.

[32] Broughton, *supra* note 8.

[33] *See Id.*

[34] Allin C. Seward III, *After Bhopal: Implications for Parent Company Liability*, 21, 3 INT'L LAW. 695, 696 (Summer 1987).

[35] *Id.* at 35.

[36] Sahu, et al. v. Union Carbide Corp., 418 F.Supp.2d 407, 412 (S.D.N.Y. 2005).

[37] Broughton, *supra* note 8. See also *Sahu*, 418 F.Supp. at 408.

[38] SHRIVASTAVA, *supra* note 4, at 30.

[39] *Sahu*, 418 F.Supp.2d at 408-9.

[40] Chouhan, *supra* note 27, at 205.

With lines badly choked by sodium salts deposits and a key valve malfunctioning, allowing a ton of water supposed to clean internal pipes to mix with the MIC, "violent runaway reactions" occurred, resulting in high pressure and temperature in the tank.[41] An exothermic reaction led to an explosion, fracturing the tank and releasing the lethal gaseous vapours.[42]

Safety processes involving scrubbers,[43] flare towers,[44] water spraying,[45] and refrigeration[46] then all failed. Although the Bhopal plant had an evacuation plan, it covered only plant personnel, not the surrounding community. And, in accordance with its policy, after five minutes the company switched off the siren that was to act as a community alarm.[47] One scholar concluded that the Bhopal plant "was not designed to handle emergencies" that could have been handled by a similar plant UCC ran in West Virginia.[48] He also noted: "The temperature sensor and alarm for the MIC storage tank had not been working for almost 4 years. Therefore, regular recording of temperature in the log sheets was not done. According to the officers, this parameter was not important. However, it could have warned of the runaway reaction occurring much earlier."[49]

Over the next few days perhaps as many as 10,000 people died; ultimately, an estimated 15,000 to 20,000 persons died prematurely on account of the accident.[50]

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[41] *See Id.* and Broughton, *supra* note 8.

[42] Cassels, *supra* note 13, at 315.

[43] The plant had only a single vent gas scrubber, "a safety device designed to neutralize toxic exhausts from the MIC plant and storage system. Gases leaving the tank were routed to this scrubber, where they were treated with a caustic soda solution and released into the atmosphere at a height of 100 feet or routed to a flare." SHRIVASTAVA, *supra* note 4, at 36. However, in the preceding weeks the gas scrubber had been turned off, Broughton, *supra* note 8, and in any event "was not capable of controlling the runaway reaction." Chouhan, *supra* note 27, at 206.

[44] A flare tower burned gases emanating from MIC production, detoxifying them, before venting them into the atmosphere. SHRIVASTAVA, *supra* note 4, at 36. However, the flare tower had been shut down so that a piece of corroded pipe could be replaced, and, in any event, it did not have the capability of burning large amounts of MIC. Chouhan, *supra* note 27, at 206.

[45] Toxic chemical vapor might also be controlled by spraying large quantities of water. However, the poisonous gases escaped the plant at a height of thirty meters, above where the water spray could reach. *Id.* at 206, and SHRIVASTAVA, *supra* note 4, at 46.

[46] UCIL had a thirty-ton refrigeration unit that used Freon to chill salt water in order to keep MIC at low temperatures, particularly important given hot summer weather. But, in June 1984 this system had also been shut down, with the coolant drained for use elsewhere in the plant, "thus making it impossible to switch on the refrigeration system during an emergency." *See* SHRIVASTAVA, *supra* note 4, at 36, and Broughton, *supra* note 8.

[47] Chouhan, *supra* note 27, at 206. *See also* SHRIVASTAVA, *supra* note 4, at 40.

[48] Chouhan, *supra* note 27, at 206.

[49] *Id.*

[50] *Id.*

As for survivors, the Indian government reported that more than 500,000 people had been exposed to the gas, and the U.S. federal court that considered the case concluded that more than 200,000 people had been injured.[51]

III. THE BHOPAL LEGAL CASES

Shortly after the accident, plaintiffs filed some 6,500 lawsuits in India against UCIL, the State of Madhya Pradesh, and the Municipality of Bhopal, as well as against UOI.[52] However, for plaintiffs, the 'deepest pockets' in the case—the wealthiest of the potential defendants—were taken to be those of the parent company, UCC. Indian courts, however, lacked jurisdiction over it. Consequently, on December 7, 1984, the first lawsuit was filed in the United States against Union Carbide,[53] and eventually lawyers brought some 145 actions in the U.S. legal system, involving about 200,000 claimants.[54]

A. THE BHOPAL ACT

Turn next to the political arena. In response to these private legal initiatives, the UOI passed the Bhopal Gas Leak Disaster (Processing of Claims) Act,[55] granting it the exclusive right to represent the victims of the Bhopal leak, whether a lawsuit was brought in India or abroad. The Act also applied retroactively.[56] Here, the Government drew on the legal concept of *parens patriae*, under which a state can serve as the guardian of persons.[57]

This political move proved controversial. One legal scholar later observed: "While some form of consolidation and assistance was absolutely necessary, the government was in a conflict of interest position. Possibly negligent itself, and sensitive to the imperatives of maintaining a hospitable environment for multinational investment capital, the government would face pressures to compromise the case and would in time come to be perceived as nearly as great a villain as the company."[58]

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51 *See* Broughton, *supra* note 8, and *In re Union Carbide Corp.*, 634 F.Supp. at 844.

52 *Union Carbide*, 809 F.2d at 198. These were consolidated in the District Court of Bhopal.

53 *Union Carbide*, 634 F.Supp. at 844. The case was *Dawani et al. v. Union Carbide Corp.*, S.D.W.Va. (84-2479).

54 *Union Carbide*, 634 F.Supp. at 844.

55 https://indiankanoon.org/doc/1510537/ (last visited Aug. 16, 2019).

56 Shubha Ghosh, *Book Review: The Uncertain Promise of Law: Lessons from Bhopal*, 13 STANF. ENVTL. L.J. 251, 252 (1994).

57 BLACK'S LAW DICTIONARY 1114 (6th ed. 1990). The doctrine of *parens patriae* is often applied to juveniles or the insane. In India some argued that the UOI was a joint tortfeasor as its "agency and instrumentalities" were shareholders in UCIL, and Indian authorities had permitted the plant to operate close to a heavily populated area. Colin Gonsalves, *The Bhopal Catastrophe: Politics, Conspiracy and Betrayal*, XLV, 26 & 27 ECON. & POL. WK'LY 68, 70 (2010).

58 Cassels, *supra* note 13, at 321.

B. THE LAWSUIT IN U.S. FEDERAL DISTRICT COURT

Next, UOI filed suit in U.S. federal district court on behalf of the Bhopal victims, and an initial American perspective on the Bhopal tragedy emerged from the legal reasoning featured in the court's opinion and the subsequent appellate court decision. In court UCC promptly moved the District Court to dismiss the actions, citing the *forum non conveniens* doctrine. This equitable rule provides courts with the discretion to decline jurisdiction over a cause of action when the convenience of the parties and the aim to do justice suggest it would be more just and appropriate for the case to be tried elsewhere.[59] The traditional general rule advanced in American tort law "mandates that adjudication on the merits take place in the *lex loci delecti* (the place of the tort)."[60] However, application of this doctrine occurs at the discretion of the trial court,[61] and tends to be quite fact-specific.

In prior cases the U.S. Supreme Court had provided guidance as to which factors of public and private interest ought to be considered in determining whether or not to grant a motion to dismiss on account of *forum non conveniens*.[62] For example, the Court held that judges should not evaluate whether one court or another would offer the plaintiff an advantage or disadvantage at trial because of a favourable or unfavourable change of law.[63] That is, they should not inquire into whether the plaintiff or defendant would benefit from the court declining jurisdiction. Instead, judges should initially ask: would the other court, where the case might be brought, provide an adequate alternative forum?

The effort to balance private and public interests and "reasonably balance" them "to determine whether dismissal is favoured"[64] brought presiding Judge John Keenan, in the Southern District of New York, to consider relevant attributes of the Indian legal system. Ultimately, he concluded not only that hearing the Bhopal case in an Indian court would be a viable option, but that it would be preferable. The following matters, though quite practical in nature, proved to be the most important factors in influencing the court to dismiss the U.S. case and have it heard, instead, in India.

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[59] BLACK'S LAW DICTIONARY, *supra* note 61, at 655.

[60] Kathleen Crowe, *Cleaning Up the Mess: Forum Non Conveniens and Civil Liability for Large-Scale Transnational Environmental Disasters*, 24 GEO. INT'L ENVTL. L. REV. 449, 453 (Spring 2012).

[61] Seward, *supra* note 34, at 705.

[62] The leading cases here are *Gulf Oil Corp. v. Gilbert*, 330 U.S. 501 (1947), and *Piper Aircraft Co. v. Reyno*, 454 U.S. 235 (1981).

[63] *Union Carbide*, 634 F.Supp. at 846. The exception would be where the possible change in law would provide "no remedy at all" to the plaintiff. *Id.*

[64] *Union Carbide*, 634 F.Supp. at 845.

Keenan argued that the Indian judiciary was not only "developed, independent, and progressive,"[65] but able to cut through delays and backlogs by devising special procedures for extraordinary cases.[66] He found Indian courts had competently handled complex technological issues in past cases.[67] And, he felt that India's tort law, with its common-law roots, was suitable to be applied to the legal issues likely to arise in the Bhopal case.[68]

Judge Keenan further argued that, since the accident had occurred in India, Indian law should govern the case. Furthermore, since the vast majority of the victims were Indians and since Indian officials had been regulating the plant's operations, Keenan concluded that almost all of the evidence and witnesses were likely to be located in India. Virtually all of the plant records relating to liability and all of those relating to damages were to be found in and around Bhopal.[69]

In addition, the court noted that, while UCC records would be in English, many UCIL records would be in Hindi or other Indian languages.[70] Tens of thousands of pages of relevant documents would thus be more accessible to an Indian court than an American one. Indeed, India's Central Bureau of Investigation (CBI) had already seized "among other documents, daily, weekly, and monthly records of the Bhopal plant operations.

Keenan observed that, if need be, an Indian court could view the scene of the accident,[71] and it could supervise the plant's closure. In addition, most of the witnesses were likely to speak Indian languages. Eventually, a federal appeals court further noted: "The many witnesses ... are almost entirely located in India, where the accident occurred, and could not be compelled to appear for trial in the United States."[72] Thus, India seemed the more appropriate venue.

Finally, Judge Keenan concluded that public interests also counselled that the case be heard in India. He felt that an Indian court ought to shoulder the costs of trying this complex case.[73] And, he pointed out that the trial would likely be lengthy. If it occurred in the U.S., a jury would sit for many months, enduring continual translations, that might be avoided if the trial occurred in Bhopal.[74]

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65 *Union Carbide*, 809 F.2d at 199.
66 *Union Carbide*, 634 F.Supp. at 848, and *Union Carbide*, 809 F.2d at 199.
67 *Union Carbide*, 634 F.Supp. at 849, and *Union Carbide*, 809 F.2d at 199.
68 *Union Carbide*, 634 F.Supp. at 849, and *Union Carbide*, 809 F.2d at 199.
69 *Union Carbide*, 634 F.Supp. at 853.
70 *Id.*
71 *Union Carbide*, 634 F.Supp. at 860.
72 *Id.* at 199.
73 *Id.*
74 *Id.* at 862.

Judge Keenan concluded:

> *"This Court, sitting in a foreign country, has considered the extent of regulation by Indian agencies of the Bhopal plant. It finds that this is not the appropriate tribunal to determine whether the Indian regulations were breached, or whether the laws themselves were sufficient to protect Indian citizens from harm. It would be sadly paternalistic, if not misguided, of this Court to attempt to evaluate the regulations and standards imposed in a foreign country."*

Keenan reasoned: "In the Court's view, to retain the litigation in this forum, as plaintiffs request, would be yet another example of imperialism, another situation in which an established sovereign inflicted its rules, its standards and values on a developing nation. This Court declines to play such a role."

Finally, Keenan noted: "Since it is defendant Union Carbide which, perhaps ironically, argues for the sophistication of the Indian legal system in seeking a dismissal on grounds of *forum non conveniens*, and plaintiffs, including the Indian Government, which state a strong preference for the American legal system, it would appear that both parties have indicated a willingness to abide by a judgment of the foreign nation whose forum each seeks to visit."[75]

However, in attempting to ensure that a fair outcome would occur in India, Keenan's opinion also established some important conditions that he ordered be applied to the transfer of the Bhopal case to the Indian court system.[76] First, he compelled UCC to consent to the jurisdiction of the Indian courts and to continue to waive any possible defences that the statute of limitations had expired.

Ultimately, then, the U.S. Federal Court of Appeals eliminated two of the conditions that Judge Keenan had imposed, but affirmed the District Court's order in all other respects.[77]

C. THE SETTLEMENT OF THE CASE

In September 1986 the Union of India brought a lawsuit in the District Court of Bhopal on behalf of all claimants against UCC and UCIL.[78] Reportedly, some plaintiffs' attorneys had already indicated that they would agree to a proposed $350 million settlement; however, the Government of India had rejected that

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[75] *Union Carbide*, 634 F.Supp. at 844. See also Seward, *supra* note 34, at 699 ("The Indian Government reversed its position on appeal, to the chagrin of the attorneys for the individual plaintiffs").

[76] Although certain of Keenan's conditions were quite unusual, the device of establishing conditions in a *forum non conveniens* dismissal is commonplace in American jurisprudence. See Seward, *supra* note 34, at 701-3.

[77] *Id.* at 197.

[78] *Id.* at 198.

possible deal.[79] The Indian Government's initial request for settlement reportedly stood at $3.3 billion.[80] Further negotiations ensued.

In late 1987 the District Court of Bhopal ordered Union Carbide to pay 3,500 million rupees (about $270 million) into an interim fund that a claims commissioner would administer, enabling $15,385 to be disbursed to the next-of-kin of each victim and $7,690 to the permanently disabled.[81] This decision was appealed, eventually to the Supreme Court of India, a process that seems to have contributed real momentum to settlement discussions.[82] In 1989, fully five years after the Bhopal accident, the Supreme Court's order finally settled all claims. Union Carbide agreed to pay, as final relief, $470 million to the government of India, which it would then distribute to the victims. Union Carbide was then discharged from all future civil or criminal liability in the case.

Given the exorbitant costs of trying the case and the likelihood of considerable delay while victims suffered, a settlement of the Bhopal gas leak case was always a very possible outcome with much to recommend it. The Supreme Court of India approved of the settlement agreement as "just, equitable and reasonable," while quashing "all criminal proceedings related to and arising out of the disaster."[83] The Court argued that, given "the enormity of the human suffering occasioned by the Bhopal gas disaster and the pressing urgency to provide immediate and substantial relief to victims of the disaster," the case "was pre-eminently fit for an overall settlement."[84] In a follow-up judgment, further explaining its decision, the Court stated that while important principles were at issue in the case, the "niceties of legal principles were greatly overshadowed by the pressing problems of very survival for a large number of victims."[85]

However, the settlement proved instantly controversial. In terming this resolution a "travesty of justice," the former Chief Justice of the Supreme Court of India, P. N. Bhagwati, declared, "The multinational has won and the people of India have lost" and "The Supreme Court has lost the opportunity of advancing human rights jurisprudence from the Third World viewpoint and failed to meet the expectations of the people of India."[86] Various American scholars also came to argue that the settlement had been decidedly inadequate. Edward Broughton called the $470

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[79] Magraw, *supra* note 12, at 837.

[80] Jasanoff, *supra* note 10, at 683.

[81] Ghosh, *supra* note 60, at 254.

[82] *Id.*, and Abraham, *supra* note 55, at 334.

[83] The Court justified quashing criminal proceedings as an exercise of its plenary powers under the Constitution (articles 136 and 142). Gonsalves, *supra* note 61, at 70.

[84] Cassels, *supra* note 13, at 330.

[85] *Id.*, citing *Union Carbide Corp. v. Union of India* (Order of the Supreme Court, Feb. 14, 1989).

[86] Cassels, *supra* note 13, at 330, citing P. N. Bhagwati, *Travesty of Justice*, INDIA TODAY, Mar. 15, 1989, at 45.

million in compensation "a relatively small amount ... based on significant underestimations of the long-term health consequences of exposure and the number of people exposed," and he noted that the figure had been "partly based on the disputed claim that only 3000 people died and 102,000 suffered permanent disabilities."[87] It was later noted that the settlement could not "cover the costs of the disaster, which include ongoing multi-generational medical care, care for widows and orphans, lost wages, emotional and psychological distress, and environmental clean-up."[88]

Implementation then proved a daunting task, further souring public reaction to the settlement. According to UOI's counsel, over 487,000 claims were filed in India.[89] Distinguishing genuine from spurious claims proved to be especially challenging, and, as one scholar noted, "The (necessarily) complicated quasi-judicial bureaucracy put into place to determine the validity of individual claims and distribute the compensation was cumbersome and complicated."[90] By 1994, a decade after the accident, only one in six claims had been finally resolved.

In the meantime UCIL shut down the Bhopal plant, causing more hardship in the community: 650 permanent jobs and a like number of temporary ones vanished, as did the $25 million the company was investing in the city.[91] Union Carbide sold parts of UCIL to such companies as Ralston Purina, Thone-Poulenc, and Praxair.[92] In 1994 UCC jettisoned its remaining UCIL shares, and UCIL changed its name to Eveready Industries India Limited (EIIL). Eventually, Dow Chemical bought EIIL as well as the parent company, Union Carbide Corporation, which became a subsidiary of Dow. Thereafter, Dow took the position that because it had acquired the companies long after the tragic accident, it bore no responsibility to Bhopal victims.[93]

Another salient point regarding the settlement suggests itself to legal scholars. Since the Bhopal gas leak case did ultimately settle, neither the U.S. nor the Indian courts ended up speaking authoritatively about which entity, or entities, were liable and to what degree. As Daniel Barstow Magraw noted, a court might have judged UCC liable for not exercising sufficient control over its subsidiary, holding that "a multinational enterprise as a whole should bear financial responsibility for all of its activities, regardless of corporate form ..."[94] A court

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[87] Broughton, *supra* note 8.

[88] Nehal A. Patel & Ksenia Petlakh, *Ghandi's Nightmare: Bhopal and the Need for a Mindful Jurisprudence*, 30 HARV. J. RACIAL & ETHNIC JUST. 151, 155 (2014).

[89] *Union Carbide*, 634 F.Supp. at 844-45.

[90] Cassels, *supra* note 13, at 332.

[91] SHRIVASTAVA, *supra* note 4, at 60.

[92] Patel & Petlakh, *supra* note 103, at 154.

[93] *Id.*

[94] Magraw, *supra* note 12, at 840. Note that in his concurring opinion in *Charanlal Sahoo*, *supra*

might have found UCIL liable "either on a strict-liability theory or because it was negligent in operating the plant and in failing to provide sufficient warning to the potentially affected population."[95] In the end, however, all such issues were reserved for decision in some future case.

IV. CONTRASTING AMERICAN PERSPECTIVES ON THE BHOPAL CASE

Inis L. Claude, Jr., of the University of Virginia, wrote: "The victims of the calamity at Bhopal clearly deserve sympathy, assistance, and justice. It is, of course, easier to agree that justice should be done than to agree on what that entails in the specific circumstances of the case."[96] In reaction to the tragedy of the Bhopal industrial accident, American (and some Canadian) scholars split into two groups, some largely supporting the American legal system's handling of the case and others largely criticizing it. Let us turn next to representative examples of these contrasting approaches.

A. THE SUPPORTIVE APPROACH

Scholars supporting the decisions of the U.S. courts in this case might start from a premise that favours free trade. To enhance the competitiveness of a country's businesses, this groups might avoid or discourage extra-territorial regulation, that is, the operation of a country's regulations beyond its borders.[97] As a philosophical matter, they might shy away from what American political scientist Hans Morgenthau termed "nationalistic universalism": "an ethnocentric attitude that indulges in the arrogant pretension to define the requirements of justice for all societies."[98] They might also ground their arguments in an understanding of what the concept of sovereignty entails vis-á-vis foreign investment.

Under international law, states recognized as sovereign receive particular rights. To take two well-known examples, sovereign states have long been deemed legally competent to expropriate foreign-owned property within their borders,[99] and to

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note 70, Justice K.N. Singh cited the United Nations Code on Conduct on Transnational Corporations, writing "a transnational corporation should be made liable and subservient to laws of our country and the liability should not be restricted to the affiliate company only but the parent company should also be made liable for any damage caused to the human beings or ecology." Gonsalves, *supra* note 61, at 71.

[95] *Id.*

[96] Inis L. Claude, Jr., *Compensatory Justice and Multinational Corporations*, in ISSUES IN COMPENSATORY JUSTICE: THE BHOPAL ACCIDENT 44, 45 (R.S. Khare ed., 1987).

[97] Cassels, *supra* note 13, at 317-18.

[98] Claude, *supra* note 111, at 45.

[99] *See, for e.g.*, KAMAL HOSSAIN & SUBRATA ROY CHOWDHURY, PERMANENT SOVEREIGNTY OVER NATURAL RESOURCES IN INTERNATIONAL LAW (1984), and MANNARASWAMIGHALA SREERANGA RAJAN, SOVEREIGNTY OVER NATURAL RESOURCES (1978).

assert their sovereign immunity in the courts of other sovereigns.[100] Yet sovereignty is also "a declaration of political responsibility for governing, defending, and promoting the welfare of a human community."[101] Thus, sovereign status also requires states to accept particular duties.

Sovereign states are obligated to exercise varied responsibilities within their own borders.[102] States that are sovereign are expected to manage and supervise a host of significant matters occurring within their territory. In commenting on the Bhopal case, Inis Claude wrote, "My view of the matter starts with the proposition that India, like other Third World states, is a sovereign member of the international system and is therefore both entitled and obligated to manage affairs within its territory. Hence, we ought to assume that the arrangements existing in India for handling tort claims reflect and express the prevailing concept of justice in Indian society."[103]

With respect to investment by foreigners, and particularly the multinational companies that engage in so much and such critically important foreign investment, sovereign governments supervise their operations, through laws reflecting their society's conceptions of justice. Thus, Claude observed: "All states have the right, and the duty to their own people, to establish the terms under which they will permit the entry and operation of MNCs, to set safety and other regulations for MNCs, to hold MNCs accountable, and to protect their citizens against harm at the hands of MNCs."[104] With respect to the Bhopal case, Claude raised the issue of how the Government of India had exercised its responsibilities as the sovereign authority within its borders: what relevant laws had been passed and regulations issued, and how had they been enforced?[105]

The common aim of governments is to try to ensure that foreign companies play, on balance, a largely positive role in society: their workers are adequately

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[100] For a recent expression of this principle see the United Nations Convention on Jurisdictional Immunities of States and their Property (2005) at https://treaties.unorg/doc/source/recenttexts/english 3 13.pdf (last visited Aug. 16, 2019).

[101] MICHAEL FOWLER & JULIE BUNCK, LAW, POWER, AND THE SOVEREIGN STATE: THE EVOLUTION AND APPLICATION OF THE CONCEPT OF SOVEREIGNTY 12 (1995).

[102] In the *Island of Palmas* case Max Huber wrote: "Territorial sovereignty ... involves the exclusive right to display the activities of a State. This right has as corollary a duty: the obligation to protect within the territory the rights of other States, [including] ... the rights which each State may claim for its nationals in foreign territory." Island of Palmas (U.S. v. Neth.s), 2 R. INT'L ARB. AWARDS 839 (1928) (Huber, arb.)

[103] Claude, *supra* note 111, at 46.

[104] *Id.* at 46.

[105] *Id.* at 44. Claude wrote: "Presumably much of the negligence may be attributed to Union Carbide, but one must wonder whether the Government of India shared in that culpability. What were the agreed terms for Union Carbide's carrying on its industrial operations in India? What provisions applicable to industrial accidents had been included in the arrangements between the government and the company?"

protected, and they obey the country's laws and regulations. Governments aim to ensure that multinationals pay their taxes, do not seriously damage the environment, and otherwise operate as upstanding corporate citizens. However, on occasion, unforeseen and catastrophic industrial accidents can occur, and, here, governments look to gain fair compensation for the injured.

Although many governments are competing with one another to attract foreign investment to their countries, Claude argued that governments are not 'at the mercy' of multinational corporations: "[MNCs] do have significant bargaining power, of course, derived from the fact that they may be regarded as golden-egg-laying geese whom third world governments do not want to kill or drive away. But governments are not obliged to subordinate concern that their authority be respected and that their people be treated justly to their economic goals. One might argue, indeed, that they are obliged *not* to do so."[106]

After observing that India is not a primitive country nor an especially new one and after noting the considerable scientific and technological abilities in the Indian population, Claude declared: "It seems to me arrogant and condescending for Americans to say that India does not know how to do justice to its own people and that Indians should therefore ... adopt American concepts or legal institutions in order to do justice after industrial accidents."[107] And, he concluded: "Perhaps the central message of Bhopal is that governments of the Third World need to work more diligently at regulating the activities of MNCs in their countries, and at developing adequate local remedies for local incidents — adequate, that is, by reference to their societies' own conceptions of just treatment for those who suffer injury."[108]

B. THE CRITICAL APPROACH

In testimony at the Bhopal trial and then in a series of follow-up articles,[109] an American expert on Indian law -- Marc Galanter, Evjue-Bascom Professor of Law and South Asian Studies at the University of Wisconsin-Madison School of Law -- initiated a much more critical perspective on how the American legal system had handled this catastrophic accident. The premise to this school of thought rests on the proposition that many countries lack the ability, at present, to develop legal systems with the procedures and expertise to handle sprawling, technologically

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[106] Claude, *supra* note 111, at 44.

[107] *Id.* at 46.

[108] *Id.* at 47.

[109] *See* Marc Galanter, *Legal Torpor: Why So Little Has Happened in India After the Bhopal Tragedy*, 20 TEX. INT'L L. J. 273 (1985), and Marc Galanter, *The Transnational Traffic in Legal Remedies*, in LEARNING FROM DISASTER: RISK MANAGEMENT AFTER BHOPAL 133 (Sheila Jasanoff ed., 1994)

complex lawsuits.[110] Kathleen Crowe noted of international environmental disasters: "Successful response to these problems will require industry experts to find the technical defects contributing to the disaster, medical physicians to diagnose the effects on victims, scientists to determine the ecological effects, as well as inside access to confidential corporate information that may reveal circumstances leading to the incident. Successful response will also be time-sensitive, because of the urgency of providing medical care and repairing the ecology before further damage is done."[111]

The critical approach stresses that some, but by no means all of these factors, might have been quite problematic in India. Galanter conceded that "India is an open democratic society with a free press, lots of lawyers, a vast pool of scientific and technical expertise, and vigorous judicial protection of fundamental rights."[112] However, shortly after the accident, Galanter also argued that India has "an undeveloped tort law": "Courts are viewed as a place to pursue disputes with intimates and neighbors, not to secure redress from remote impersonal entities.[113]

Marc Galanter proceeded to argue that Indian lawyers tend to emphasize courtroom advocacy over investigating facts.[114] He continued: "Indian civil procedure does not include provisions for wide-ranging discovery that would permit factual investigation in complex problems of technology or corporate management. There are no special procedures for handling complex litigation involving massive amounts of evidence or large numbers of parties. Bar and bench, though they contain many brilliant and talented individuals, have a limited fund of experience and skills and a limited organizational capacity to address massive cases involving complex questions of fact."[115] And, India has meagre "institutional support for specialized knowledge: specialist organizations, specialized technical publishing, continuing legal education, a vigorous scholarly community, ..."[116]

In contrast, Galanter argued:

> *The American system, very expensive and maddeningly wasteful in handling repetitive claims is good at delineating new frontiers of accountability. Substantive law is abundant and subtle; procedure permits ample factual investigation; lawyers cultivate specialized skill in dealing with cases involving complex technology; courts are innovative in dealing with complex*

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[110] Marc Galanter, *When Legal Worlds Collide: Reflections on Bhopal, the Good Lawyer, and the American Law School*, 36 J. LEGAL EDUC. 292, 299-300 (1986).

[111] Crowe, *supra* note 64, at 451.

[112] Galanter, *supra* note 125, at 299.

[113] *Id.* at 296.

[114] *Id.* at 297.

[115] *Id.*

[116] *Id.*

> *cases; an entrepreneurial bar invests in pioneering claims; contingent fees provide ready access to legal services. Although there are delays, cases usually proceed steadily toward final disposition.*[117]

Galanter further specified: "I am not arguing that those who staff the American legal system are more talented or more dedicated or more moral. My argument is that they are collectively possessed of a superior organizational technology for assembling and integrating information, reaching decisions, and solving problems."[118]

In short, Galanter concluded that "[i]n terms of providing a remedy for the Bhopal victims, the American system for all its many faults, is a strong system; and the Indian system ... is a weak one."[119] He pointed out that many claimants come to American courts precisely because the U.S. offers claimants a strong remedy system, not just after economic disasters but after human rights abuses, air crashes, and alike.[120] Galanter then asked, when an economically dynamic country like the U.S. exports technologies via its companies that carry real risks, shouldn't Americans also feel an obligation to export the legal technology used to assess and control those risks at home?[121]

Jamie Cassels approached the Bhopal accident from a broadly similar orientation. He emphasized the lack of enforcement of applicable regulations by "underfunded and understaffed" Indian government departments, leaving an "inspection system ... vastly inadequate to police the hazards."[122] Here, Cassels quoted an Indian scholar, who wrote: "In the absence of effective political will to enforce them, the laws merely create illusions and mystifications. The laws create an image of social progress which is constantly belied by the everyday reality of non-enforcement."[123]

"By pursuing their global purposes through networks of legally independent subsidiaries," Jamie Cassels further argued, "the assets of multinational

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[117] *Id.* Later, Galanter argued: "[M]ost of what most lawyers in all societies do is the routine application of existing rules, with some admixture of localisms and informal short-cuts.... But in the background there is always the possibility of departing from routine to consider basic principle, underlying policy, new fact situations, or changes in context as the occasion to combine and reformulate categories in new ways. Such excursions to the frontiers of legal innovation are demanding expensive, and usually intermittent. But I submit that American judges and lawyers (or a portion of them) have a greater propensity than their international counterparts elsewhere to incorporate new materials, visualize new combinations, and otherwise engage in innovation. This is promoted by their sheer numbers, by the greater professional legitimacy of such frolics, and by the weakness and ambivalence of their commitment to a world of fixed legal norms." *Id.* at 303.

[118] *Id.* at 298.

[119] *Id.* at 295-96.

[120] *Id.* at 305-6.

[121] *Id.* at 298-99.

[122] Cassels, *supra* note 13, at 317.

[123] *Id.*, citing INDIAN LAW INSTITUTE, THE ENVIRONMENTAL PROTECTION ACT: AN AGENDA FOR IMPLEMENTATION 1 (Bombay: N.M. Tripathi, 1987).

companies can be widely dispersed and placed beyond the reach of the law. Through transfer pricing techniques, high-risk subsidiaries can be maintained on the borderline of solvency. When a disaster does occur, the assets and insurance of the local company are insufficient to compensate the victims, while the assets of the parent are shielded from any claim." He concluded: "To hold the parent liable is often the only way to ensure full compensation for these victims and to encourage the parent companies to exercise greater responsibility in controlling its foreign operations."

In applying these general thoughts to the Bhopal accident, Cassels characterized the Bhopal facility as an "orphan operation," "cut adrift by the parent company."[124] The regional economy turned quite problematic: "Widespread crop failures and famine on the subcontinent in the 1980s led to increased indebtedness and decreased capital for farmers to invest in pesticides."[125] After acknowledging that pesticides were expensive for "the millions of small farmers eking out a living in the Indian countryside," Cassels wrote:

> *The ill-timed decision to adopt a hazardous technology led to the creation of a money-losing operation. Cost-cutting measures eroded the safety of the plant, and the morale and training of employees had been deteriorating. Safety auditing was poor, and hazard communication was almost non-existent. There had been several earlier leaks and worker injuries, but no significant action taken in response. Safety systems were allowed to deteriorate, and updated information was not passed on from the head office to the subsidiary.... Indeed, at the time of the disaster, Union Carbide had been considering ways of divesting itself of the Bhopal facility.*[126]

After noting that in July 1984 local managers had been directed to close the plant and prepare it for sale, Edward Broughton observed: "The local government was aware of safety problems but was reticent to place heavy industrial safety and pollution control burdens on the struggling industry because it feared the economic effects of the loss of such a large employer."[127]

Nehal Patel of the University of Michigan-Dearborn and Ksenia Petlakh of State University of New York (Buffalo State) concluded: "[W]hat is most insidious about the Bhopal aftermath is the manner in which existing laws were manipulated by the state and its courts to increase short-term convenience to the government and

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[124] Cassels, *supra* note 13, at 316-17.

[125] Broughton, *supra* note 8.

[126] Cassels, *supra* note 13, at 316-17.

[127] Broughton, *supra* note 8.

corporation at the expense of the long-term well-being of those who were poisoned."[128]

V. CONCLUSION

One might have expected that a catastrophe on the scale of the Bhopal tragedy would have brought about sustained activity by many governments to fill the evident gaps in international law regarding foreign investment and the environment. However, to date, governments have not chosen to use international environmental law to create a global legal consensus on how liability for industrial accidents involving foreign investment ought to be handled.[129] In this regard all that can be concluded is that some advances in "soft law," featuring transnational codes of conduct and international resolutions, also occurred after Bhopal. To take one example, the European Parliament in its Bhopal Resolution required multinational companies to "operate with the same safety standards in all countries."[130]

International law, however, had depressingly little relevance for the Bhopal legal cases. Sudhir Chopra, Adjunct Professor of Law at Valparaiso University School of Law in Indiana, who has worked for both the U.S. Environmental Protection Agency and the Department of Environment in India, argued, "[T]he reality is that not one aspect of public international law was applied in the Bhopal case to help resolve the dilemma faced by the victims.... In reality, every aspect of this case has been considered under the municipal laws of either the United States or India, with both countries following the common law system but exhibiting different applications and interpretations."[131]

And yet, international law could very well be applicable to this area of international life. A comprehensive convention laying out the rights and duties of foreign investors would, in all likelihood, be an immensely challenging undertaking. But this is not the only conceivable approach. Instead, more narrow and specific treaties might begin to establish a useful body of international law. For example, Edward Broughton commented, "Enforceable uniform international operating regulations for hazardous industries would have provided a mechanism for significantly improved ... safety in Bhopal. Even without enforcement, international standards could provide norms for measuring performance of

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[128] Patel & Petlakh, *supra* note 103, at 153.

[129] *Id.* at 190.

[130] *Id.*

[131] Chopra, *supra* note 26, at 239.

individual companies engaged in hazardous activities such as the manufacture of pesticides and other toxic chemicals in India."[132]

One might also observe that, although multinational companies headquartered in one country frequently adopt a corporate structure featuring subsidiaries doing business abroad, and although production processes, marketing, and sales may often cross state boundaries, no international organization or agency regulates the manufacture and sale of toxic substances such as these pesticides.[133] As Marc Galanter of the University of Wisconsin-Madison argued, "[R]egulatory controls would be difficult to establish, and insistence on their applicability would thwart the policies and offend the honor of sovereign states."[134]

Moreover, those who hoped that the Bhopal accident would stimulate a revolution in American jurisprudence related to toxic torts and environmental catastrophes that involved U.S.-headquartered multinational companies have also been disappointed. Although many American scholars criticized the way that the U.S. and Indian political and legal systems handled the case, the traditional approach, supportive of dismissing the case from the U.S. court system and sending it back to India, largely carried the day in political and legal circles.

Indeed, in the aftermath of the Bhopal case American courts have continued to employ the *forum non conveniens* device. Here, it appears that the more pervasive is the foreign regulation of an industry, the more likely is a U.S court to dismiss the case, sending the litigants abroad for its disposition.[135] Although the corporation faces the burden of complying with extensive laws and regulations, these also establish "the local interest in the controversy" that will bring about the shift to the foreign court system.[136] Furthermore, one American corporate lawyer observed: "[F]oreign plaintiffs gain a major procedural advantage ... simply by starting their case in a U.S. court against the U.S. parent company, even when they know the case may well go back to their home jurisdiction on forum grounds. They thus ... force the foreign parent to submit to the jurisdiction of a foreign court that could otherwise not reach it."[137]

Then, while governments have clear interests in promoting the employment of national citizens and the use of national products in foreign investment projects, rigid national requirements may come at a grave cost in safe plant operations. A government should want a parent company to be far more involved in overseeing and supervising manufacturing than was the case at the Bhopal plant. As

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[132] Broughton, *supra* note 8.

[133] Ghosh, *supra* note 60, at 252.

[134] Galanter, *supra* note 125, at 299.

[135] Seward, *supra* note 34, at 706.

[136] *Id.*

[137] *Id.* at 705, n. 25.

countries negotiate with foreign investors, this cardinal point should certainly be kept in mind.

Nevertheless, while the effect of Bhopal on American jurisprudence was limited, the case brought considerable attention to the problem of catastrophic industrial accidents involving foreign investors. The monetary losses and damage to reputation to UCC underscore that, while a multinational company can set up a subsidiary as an independent entity, it retains considerable interests in overseeing the subsidiary's operations. Here, both the public relations disaster for Union Carbide and the legal cases and remedies sank deep into the consciousness of corporate executives.

Since American courts might or might not send such cases abroad for resolution via *forum non conveniens*, liability for a major accident abroad could very well be determined in the American legal system, known for its sizeable damage awards. And, if dismissed from the U.S. court system, deciding such a case in another country's courts would pose other sets of problems, including the possibility of criminal actions in a foreign country against American business executives.

Such risks and uncertainty have caused real concern in corporate headquarters and may have brought about a heightened awareness of the importance of safety issues in the operations of foreign subsidiaries. This, however, amounts to a mixed bag of different plausible lessons learned. One official at Monsanto Company, shortly after the accident, observed that: "liability for any Bhopal-like disaster ..., more than pressure from Third World governments, has forced companies to tighten safety procedures, upgrade plants, supervise maintenance more closely and educate workers and communities."[138] However, it can also be argued that the immediate lesson of Bhopal for corporate lawyers was "that legal responsibility can be avoided by emphasizing local government regulation and delegating to the subsidiary as much autonomy as possible concerning operating matters. The advice to multinationals then is to maintain strategic control from afar, but to leave operations in the hands of local managers and safety in the hands of the host government. Control can thus be maintained and responsibility avoided."[139]

Then, although the scale of the Bhopal tragedy may or may not ever be replicated, it became widely accepted that industrial and other environmental disasters are likely to be a perennial problem. One American lawyer in private practice observed, "In a globalized world, legal disputes are increasingly likely to involve parties from different countries. This internationalization of disputes is especially true in the instance of large-scale environmental disasters, which by nature and

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[138] Galanter, *supra* note 125, at 306, citing *Foreign Firms Feel the Impact of Bhopal Most*, WALL STREET J., Nov. 25, 1985, at 24.

[139] Cassels, *supra* note 13, at 326.

force of magnitude are not respectful of national boundaries."[140] The Bhopal tragedy certainly contributed to this change in perspective, which may yet bring about significant changes in foreign investment practices in the future.

[140] Crowe, *supra* note 64, at 449, citing EDITH BROWN WEISS, INT'L ENVTL. LAW & POLICY 398 (2d ed. 2007).

THE DENUCLEARIZATION OF SOUTH ASIA: CONTRASTING THE VIABILITY OF A NUCLEAR WEAPON-FREE ZONE AGAINST EXTANT DETERRENCE POSTURES

Vishaka Choudhary*

The global interest in nuclear disarmament peaked with the international community's attempt to negotiate a complete ban against the possession, manufacture, acquisition, and use of nuclear weapons in 2016. Thwarting this attempt systemically were both parties and non-parties to the Nuclear Non-Proliferation Treaty, clamouring for cognizance of their security interests and proclaiming the effectiveness of their deterrence postures.

Of these, India and Pakistan's stances are extremely relevant to global security: untamed by the Nuclear Non-Proliferation Treaty, these states have attempted to embark on continuous deterrence through development of their nuclear triads. However, with geopolitical tensions between the nations on the rise in an era of rampant nationalism, the case for establishing a South Asian Nuclear-Weapon-Free Zone should be revisited to assess the need and suitability of this model in the subcontinent. In doing so, any extant rule of international law compelling negotiations for nuclear disarmament and the special features of the South Asian region must be taken into account. The present Article attempts to analyse the need to emulate the NWFZ model in South Asia, to determine whether it is an improvement over existing nuclear policies in the region.

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I. INTRODUCTION

Nuclear Weapon-Free Zones ("**NWFZs**") refer to regions whose constituent states, in free exercise of their sovereignty, commit to the total absence of nuclear weapons within their territories. [1] The establishment of such NWFZs has been long used as a tool to secure regional disarmament and security, starting with the first NWFZ created by Antarctic Treaty in 1961.[2] Subsequent treaties have affirmed the international community's commitment to achieve regional denuclearisation.[3] Through these agreements, the entire southern hemisphere and one region in the northern hemisphere have been denuclearised – amounting to 116 nuclear free states.[4] Presently, the United Nations' General Assembly ("**UNGA**") is promoting efforts to negotiate NWFZs in Africa, the Middle East, and Central Asia.[5] Pending negotiation of a Nuclear Ban Treaty,[6] NWFZs remain the most effective means of promoting interim disarmament.

In the South-Asian context, the proposal for an NWFZ was tabled before the UNGA by the Islamic Republic of Pakistan.[7] This was hampered by the contradictory visions of two nuclear-capable nations in this region. Pakistan endorsed regional disarmament as the most effective means of preventing nuclear proliferation in South Asia, in light of lack of universal support to the Treaty on Nuclear Non-Proliferation ("**NPT**") and the inherent shortcomings thereof.[8] It urged the UNGA to lead such negotiations.[9]

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[1] G.A. Res. 3472B, U.N. Doc. A/RES/3472(XXX)B (Dec. 11, 1975).

[2] Antarctic Treaty, Dec. 1, 1959, 12 U.S.T 794, 402 U.N.T.S. 71.

[3] Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies, Jan. 1, 1967, 8 U.S.T. 2410, 610 U.N.T.S. 205; Treaty for the Prohibition of Nuclear Weapons in Latin America, Feb. 14, 1967, 634 U.N.T.S. 281, 332, 6 I.L.M. 521, 523; Treaty on the Southeast Asia Nuclear Weapon-Free Zone, Dec. 15, 1995, 35 I.L.M. 635; African Nuclear-Weapon-Free Zone Treaty, Jun. 21, 1995, 35 I.L.M. 698; Treaty on the Prohibition of the Emplacement of Nuclear Weapons and Other Weapons of Mass Destruction on the Seabed and the Ocean Floor and in the Subsoil Thereof, Feb. 11, 1971, 23 U.S.T. 701, 955 U.N.T.S. 115; South Pacific Nuclear Free Zone Treaty, Aug. 6, 1985, 1445 U.N.T.S. 177; Treaty on a Nuclear-Weapon-Free Zone in Central Asia, Sept. 8, 2006, 2212 U.N.T.S. 257.

[4] Kalsey Davenport, *Nuclear-Weapon-Free Zones at a Glance,* ARMS CONTROL ASSOCIATION (Jul., 2017), https://www.armscontrol.org/factsheets/nwfz (last visited Aug. 16, 2019).

[5] Michael Hamel Green, *Nuclear-Weapon-Free Zone Initiatives: Challenges and Opportunities for Regional Cooperation on Non-Proliferation*, 21(3) J. GLOBAL CHANGE, PEACE & SECURITY 364 (2009).

[6] ICANW, SIGNATURE/RATIFICATION STATUS OF THE TREATY ON THE PROHIBITION OF NUCLEAR WEAPONS, http://www.icanw.org/status-of-the-treaty-on-the-prohibition-of-nuclear-weapons/ (last visited Jan. 12, 2019).

[7] ZIBA MOSHAVER, NUCLEAR WEAPONS PROLIFERATION IN THE INDIAN SUBCONTINENT 120 (1991).

[8] Samina Yasmeen, *South Asia after the Nuclear Tests*, 11(3) PACIFICA REV. 244 (1999); S. Ahmed, *Pakistan's proposal for a Nuclear Weapon-Free Zone in South Asia*, 31(4)PAKISTAN HORIZON 92-130 (1979).

[9] 1974 U.N.Y.B. 19, U.N. Sales No. E.76.I.1.

In opposition, the Republic of India maintained that a South-Asian NWFZ ("**SANWFZ**") should be initiated and negotiated by the States of the region alone, without UNGA intervention.[10] This was proposed with a view to ensure that due regard was given to the special features and geographical limitations of the region.[11] Significantly, India regards South Asia as an integral part of the 'Asia-Pacific' region, which is overrun by nuclear weapon-possessing states and their alliances. Thus, it rejected the possibility of considering the South-Asian region as a distinct zone capable of being denuclearized in isolation.[12]

Presently, both India and Pakistan remain opposed to complete nuclear disarmament, regionally and internationally. Meanwhile, the need to secure lasting political stability in the region has exponentially risen. In this light, the present inquiry seeks to discuss the importance and feasibility of negotiating a SANWFZ today. Part II of this essay evaluates the existence of a universal, or alternatively, regional custom that could compel denuclearisation of South-Asia, especially India and Pakistan. Part III explores the viability of pushing for negotiations of an NWFZ in South Asia, whereas the concluding Part IV assesses the sustainability of extant deterrence postures, pending global denuclearisation.

II. MAPPING A 'CUSTOMARY' NON-PROLIFERATION AND DISARMAMENT OBLIGATION

Since 1968, the twin obligations of nuclear non-proliferation and nuclear disarmament have gained prominence in international discourse. While the former refers to a prohibition against possession, manufacture, and acquisition of nuclear weapons,[13] the latter seeks to compel states to negotiate in good faith with a view to achieve complete disarmament. [14]

The South-Asian region houses two prominent advocates of development and retention of Nuclear Weapons –India and Pakistan. Both have consistently asserted their right to retain nuclear arms in response to the other's possession, denying any incumbent customary obligation that demands disarmament or non-proliferation.[15] Thus, before examining the necessity of negotiating an SANWFZ,

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[10] U.N.G.A., First Committee Report, 29th Sess., 29 A/C, l/PV.,2000 (Oct. 20, 1974).

[11] *Id.*

[12] *Id.*

[13] Treaty on the Non-Proliferation of Nuclear Weapons art. II, Mar. 5, 1970, 21 U.T.S. 485, 729 U.N.T.S 161.

[14] Treaty on the Non-Proliferation of Nuclear Weapons art. VI, Mar. 5, 1970, 21 U.T.S. 485, 729 U.N.T.S 161.

[15] INDIA MINISTRY OF EXTERNAL AFFAIRS, LETTER FROM PERMANENT REPRESENTATIVE OF INDIA TO THE UN ADDRESSED TO THE PRESIDENT OF THE SECURITY COUNCIL OUTLINING INDIA'S APPROACH AND PERSPECTIVES REGARDING THE SECURITY COUNCIL'S SUMMIT MEETING ON NUCLEAR NON-PROLIFERATION AND NUCLEAR DISARMAMENT (2009),

it is essential to ascertain whether there already exists an obligation compelling nuclear non-proliferation or disarmament of these states. Such an obligation may facilitate negotiations of an SANWFZ or, alternatively, render the need for such negotiations redundant.

A. CUSTOMARY INTERNATIONAL LAW AND ITS CONSTITUENTS

Article 38 of the Statute of the International Court of Justice ("**ICJ**") best describes the contours of 'customary international law'.[16] It identifies custom as a rule of general practice accepted as law – thus, necessitating a conjunctive two-element test for the identification of custom[17] that is state practice and *opinio juris sive necessitais*.[18]

Here, state practice is the objective element of a custom,[19] comprised of detectable state actions that form a pattern of uniform conduct.[20] Notably, the test for tracing uniform practice is not quantitative but qualitative,[21] based on four broad considerations – near universality or generality of practice, widespread consistency of practice, practice that is representative of the international community, and practice of specially affected states.[22] In addition, if a *treaty* norm is asserted to have achieved customary status, it is necessary to establish that the practice of non-parties is concordant to that of parties to the Treaty.[23] This is essential to distinguish a purely treaty-based obligation from a customary obligation that may also bind non-parties to the Treaty.[24]

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http://www.nti.org/media/pdfs/4_ea.pdf?_=1316627912 (last visited Aug. 16, 2019); MINISTRY OF FOREIGN AFFAIRS (PAKISTAN), PRESS STATEMENT ON THE NUCLEAR WEAPONS BAN TREATY (2017), http://www.mofa.gov.pk/pr-details.php?mm=NTE5MA,,.

[16] Statute of the International Court of Justice art. 38, Apr. 18, 1946, 1833 U.T.S. 397, 33. U.N.T.S. 993.

[17] Michael Wood (Special Rapporteur of the International Law Commission), *Second Rep. on Identification of Customary International Law* 7, U.N. Doc. A/CN.4/672 (May 22, 2014); North Sea Continental Shelf Cases (Germany v. Denmark/Netherlands), Judgment, 1969 I.C.J. Rep. 3, ¶ 77 (Feb. 20).

[18] Jurisdictional Immunities of the State (Germany v. Italy: Greece intervening), Judgment, 2012 I.C.J. Rep. 99, ¶ 55 (Feb. 3).

[19] Michael Wood (Special Rapporteur of the International Law Commission), *Second Rep. on Identification of Customary International Law* 15, U.N. Doc. A/CN.4/672 (May 22, 2014).

[20] Military and Paramilitary Activities in and against Nicaragua (Nic. v. U.S.A), Merits, Judgment, 1986 I.C.J. Rep. 14, ¶ 207 (Jun. 27).

[21] Legality of the Threat or Use of Nuclear Weapons, Advisory Opinion, 1996 I.C.J. Rep. 226, 254-55, 319-20 (Jul. 8).

[22] North Sea Continental Shelf Cases (Germany v. Denmark/Netherlands), Judgment, 1969 I.C.J. Rep. 3, ¶¶ 70-4 (Feb. 20).

[23] North Sea Continental Shelf Cases (Germany v. Denmark/Netherlands), Judgment, 1969 I.C.J. Rep. 3, ¶ 76 (Feb. 20).

[24] *Id.*

Conversely, *opinio juris* is custom's subjective element, which demands that practice must be motivated by a sense of legal obligation.[25] This internal point of view of states is important to distinguish a 'usage' popular amongst the international community from law.[26] Thus, all forms of extra-legal considerations that motivate adherence to a practice are excluded from the purview of *opinio juris* and, consequently, cannot evince the formation of a customary rule – this includes actions motivated by courtesy, international comity, good-neighbourliness, political expediency, convenience or tradition.[27]

B. NUCLEAR NON-PROLIFERATION AND DISARMAMENT: 'CUSTOMARILY' PROHIBITED?

In the aftermath of the widely acclaimed UNGA Resolution 1665 on prevention on wider dissemination of nuclear weapons,[28] the denuclearisation regime was bolstered by the conclusion of the NPT in 1968. The wide acceptance of the NPT by 190 state parties forms the basis of claims concerning its customary nature.[29] The two pillars of the NPT whose customary status must consequently be assessed are nuclear non-proliferation (Article II), and nuclear disarmament (Article VI).

i. NON-PROLIFERATION AS A CUSTOMARY RULE

1. STATE PRACTICE

The NPT distinguishes between Nuclear-Weapon-States ("**NWS**") and Non-Nuclear-Weapons-States ("**NNWS**"). The former refers to the five states that possessed nuclear weapons before the NPT's conclusion.[30] The non-proliferation obligation contained in Article II governs only the latter,[31] amounting to 185 nations.

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[25] M. O. HUDSON, THE PERMANENT COURT OF INTERNATIONAL JUSTICE, 1920-1942: A TREATISE 609 (Macmillan ed., 1943).

[26] Bin Cheng, *United National Regulations on Outer Space: "Instant" International Customary Law?,* 5 INDIAN J. INT'L L. 23 (1965).

[27] Asylum (Colom. v. Peru), Judgment, 1950 I.C.J. Rep. 266, 285-6 (Nov. 20); Continental Shelf (Libyan Arab Jamahiriya/Malta), Judgment, 1985 I.C.J. Rep. 13, 69 (Jun. 3) (separate opinion by Vice President Sette-Camara); Fisheries Jurisdiction (U.K. v. Iceland), Merits, Judgment, 1974 I.C.J. Rep. 3, 58 (Jul. 25) (separate opinion by Dillard, J).

[28] G.A. Res. 1665(XVI), U.N. Doc. A/RES/1665(XVI) (Dec. 4, 1961).

[29] NPT Review Conference, *The Final Document of the 2005 Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons: Documents issued at the Conference*, NPT/CONF.2005157 (Part II) 345- 354, 374 – 386, 53 – 56 (2005).

[30] Treaty on the Non-Proliferation of Nuclear Weapons art. IX(3), Mar. 5, 1970, 21 U.T.S. 485, 729 U.N.T.S 161.

[31] Treaty on the Non-Proliferation of Nuclear Weapons art. II, Mar. 5, 1970, 21 U.T.S. 485, 729 U.N.T.S 161.

Admittedly, the compliance of 185 states with Article II reflects 'widespread'[32] state practice towards non-proliferation. This norm also finds support in practice outside the Treaty. Erstwhile non-parties such as Argentina and Brazil voluntarily ceased their nuclear programmes in 1991 vide bilateral agreements to cease proliferation.[33] Significantly, upon the USSR disintegration, constituent states such as Ukraine, Belarus, and Kazakhstan abandoned all proliferation attempts,[34] subsequently enacting domestic legislations to promote non-proliferation.[35]

The minutes of NPT Review Conferences,[36] UNGA Resolutions,[37] practice of NWFZ parties, and the conclusion of the Comprehensive Test Ban Treaty[38] ("**CTBT**") – all of which are aimed at cessation of the nuclear arms race – *prima facie* indicate that practice of NPT parties and non-parties has cumulatively elevated Article II to a customary norm. At this juncture, the significance of uniformity of state practice, in addition to its widespread nature, cannot be overstated.

a. UNIFORM STATE PRACTICE

The formation of a custom demands 'virtually uniform' practice, with little to no variance in state conduct.[39] However, such variance is rather blatant with respect to an alleged norm of nuclear non-proliferation. Resolutions of the UNGA calling for total disarmament and prohibition of nuclear weapons face severe opposition,[40] most recently evinced by the resistance against a proposed Nuclear Ban Treaty in 2017.[41] States believe that the deterrent effect of nuclear arsenal is integral to

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[32] North Sea Continental Shelf Cases (Germany v. Denmark/Netherlands), Judgment, 1969 I.C.J. Rep. 3, 219 (Feb. 20) (dissenting opinion by Lachs, J).

[33] Michael Bothe, *Weapons of Mass Destruction, Counter Proliferation*, *in* X MAX PLANK ENCYCLOPAEDIA OF INTERNATIONAL LAW 829, 831 (2012).

[34] MATTHEW CRAVEN, THE DECOLONIZATION OF INTERNATIONAL LAW: STATE SUCCESSION AND THE LAW OF TREATIES 252 (2nd ed., 2009).

[35] Uzbekistan, *Defence Law Amendment Act*, art. 6 (2001).

[36] 1980 NPT Review Conference, *Statement by Germany*, NPT/CONF.II/C.1/SR.4 177 (1980); Prep. Comm. 2020 NPT Review Conference, Summary record of the 2nd mtg., NPT/CONF.2020/PC.I/SR.2 8, 11-13 (2017).

[37] G.A. Res. 45/62C, A/RES/45/62C (Dec. 4, 1990); U.N. GAOR, 63rd Sess., 61st plen. mtg. at 4, U.N. Doc. A/63/PV.61 (Dec. 2, 2008); G.A. Res. 65/65 (Jan. 13, 2011).

[38] Comprehensive Nuclear Test Ban Treaty, Preamble, Sept. 10, 1996, 35 I.L.M. 1439.

[39] Legality of the Threat or Use of Nuclear Weapons, Advisory Opinion, Memorial by Russia (Jun. 19, 1995).

[40] G.A. Res. 72/41, U.N. Doc. A/RES/72/41 (Dec. 12, 2017); G.A. Res. 72/59, U.N. Doc. A/RES/72/59 (Dec. 13, 2017); G.A. Res. 72/50, U.N. Doc. A/RES/72/50 (Dec. 12, 2017); G.A. Res. 72/31, U.N. Doc. A/RES/72/31 (Dec. 11, 2017).

[41] PAKISTAN, EXPLANATION OF VOTE ON DRAFT RESOLUTIONS ENTITLED "TAKING FORWARD MULTILATERAL NUCLEAR DISARMAMENT NEGOTIATIONS" (2017), http://reachingcriticalwill.org/images/documents/Disarmament-fora/1com/1com16/eov/L41_Pakistan.pdf (last visited Aug. 16, 2019); UNITED STATES MISSION TO

international security and thus, accept possession and manufacture by other states as lawful.[42] In this light, state practice is far from 'uniform'.

b. REPRESENTATIVE STATE PRACTICE

This 'representative' character necessitates a spectral analysis of whether a variety of states conform to an alleged custom[43] – that is, states with diverse politico-legal, economic, and military systems. This analysis aims to ensure the 'generality' of state practice necessary for custom formation.[44]

Today, nine states actively engage in development of nuclear weapons – the five NWS (United States of America, Russia, France, China, United Kingdom), India, Israel, Pakistan, and DPRK.[45] Most of these states reserve the right to possess such weapons in the interest of national security.[46] Cumulatively, these states represent the bulwark of the world's military, economic, and technological power. That such a representative variety of states are *opposed* to this norm signifies the lack of its customary status.

c. SPECIALLY AFFECTED STATES

Specially affected states are nations whose interests are affected to a higher degree by the application of a customary rule.[47] In the context of nuclear weapons, nations intending to safeguard their security interests through nuclear deterrence are specially affected,[48] since an adverse custom would inhibit their choice of

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THE UNITED NATIONS, JOINT STATEMENT FOLLOWING THE ADOPTION OF A TREATY BANNING NUCLEAR WEAPONS (2017), https://usun.state.gov/remarks/7892 (last visited Aug. 16, 2019).

[42] NUCLEAR SUPPLIERS GROUP, PUBLIC STATEMENT ON PLENARY MEETING IN BERN (2017), http://www.nuclearsuppliersgroup.org/en/news/183-public-statement-of-the-2017-nsg-plenary-bern-switzerland.

[43] North Sea Continental Shelf Cases (Germany v. Denmark/Netherlands), Judgment, 1969 I.C.J. Rep. 3, ¶ 73 (Feb. 20).

[44] North Sea Continental Shelf Cases (Germany v. Denmark/Netherlands), Judgment, 1969 I.C.J. Rep. 3, ¶ 227 (Feb. 20) (dissenting opinion by Lachs, J).

[45] ARMS CONTROL ASSOCIATION, NUCLEAR WEAPONS: WHO HAS WHAT AT A GLANCE (2018), https://www.armscontrol.org/factsheets/Nuclearweaponswhohaswhat.

[46] Liping Xia, *China's Nuclear Doctrine: Debate and Evolution*, CARNEGIE ENDOWMENT FOR INTERNATIONAL PEACE (Jun. 30, 2016), https://carnegieendowment.org/2016/06/30/china-s-nuclear-doctrine-debates-and-evolution-pub-63967; RUSSIAN FEDERATION, MILITARY DOCTRINE OF THE RUSSIAN FEDERATION (2014), https://www.offiziere.ch/wp-content/uploads-001/2015/08/Russia-s-2014-Military-Doctrine.pdf; MINISTÈRE DES ARMÉES, FRENCH WHITE PAPER ON DEFENCE AND NATIONAL SECURITY 2013, https://www.defense.gouv.fr/.../White%20paper%20on%20defense%20%202013.pdf; UNITED KINGDOM MINISTRY OF DEFENCE, THE UK'S NUCLEAR DETERRENT: WHAT YOU NEED TO KNOW, https://www.gov.uk/government/publications/uk-nuclear-deterrence-factsheet/uk-nuclear-deterrence-what-you-need-to-know.

[47] W. T. Worster, *The Transformation of Quantity into Quality: Critical Mass in the Formation of Customary International Law*, 31 BOSTON UNIV. INT'L. L. J. 1, 63 (2013).

[48] Legality of the Threat or Use of Nuclear Weapons, Advisory Opinion, 1996 I.C.J. Rep. 226, ¶ 86 (Jul. 8).

armaments. This view is consistent with the World Court's dicta in *Nicaragua,* confirming that international law cannot limit the nature or extent of sovereign armament,[49] except with a State's consent.[50]

The practice of global nuclear powers affirms that the non-proliferation norm is not customary – these nations believe in modernizing their nuclear arsenal to prevent breaches against their sovereignty and deter all forms of aggression, nuclear or otherwise.[51] They also form nuclear sharing alliances, furnishing guarantees to extend the protection afforded by nuclear weapons to other states that do not possess these weapons.[52]

d. PRACTICE OF NON-NPT STATES

While relevant, the practice of NPT parties largely indicates their compliance with treaty obligations.[53] Thus, the practice of non-parties must be assessed to differentiate between a norm that is customary and one exclusively rooted in treaty. Both India[54] and Pakistan[55] have unequivocally opposed the existence of any custom necessitating nuclear non-proliferation by non-NPT states, as recently as 2017.[56] India in particular faces no retaliation for its nuclear programmes and consequent testing – reflected in NATO's endorsement of Agni V's testing.[57] Reportedly, Pakistan has also attempted to expand its defense strategy through nuclear sharing agreements without criticism.[58]

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[49] Military and Paramilitary Activities in and against Nicaragua (Nic. v. U.S.A), Merits, Judgment, 1986 I.C.J. Rep. 14, ¶ 269 (Jun. 27).

[50] Legality of the Threat or Use of Nuclear Weapons, Advisory Opinion, 1996 I.C.J. Rep. 226, ¶ 10 (Jul. 8) (separate opinion by Guillaume, J).

[51] ARMS CONTROL ASSOCIATION, U.S. NUCLEAR MODERNIZATION PROGRAMMES (2018), https://www.armscontrol.org/factsheets/USNuclearModernization; NUCLEAR THREAT INITIATIVE, CHINA (2015), https://www.nti.org/learn/countries/china/nuclear/.

[52] Oliver Thranert, *NATO Deterrence and Posture Review*, GERMAN INSTITUTE FOR INT'L AND SECURITY AFFAIRS (2012).

[53] O. Schachter, *Entangled Treaty and Custom*, *in* INTERNATIONAL LAW AT A TIME OF PERPLEXITY: ESSAYS IN HONOUR OF SHABTAI ROSENNE 717, 729 (Y. Dinstein and M. Tabory eds., 1989).

[54] PERMANENT MISSION OF INDIA TO CONFERENCE ON DISARMAMENT, STATEMENT BY AMBASSADOR AMANDEEP SINGH GILL, PERMANENT REPRESENTATIVE OF INDIA TO THE CONFERENCE ON DISARMAMENT DURING THE FORMAL PLENARY MEETING OF THE CONFERENCE ON DISARMAMENT ON AUGUST 22, 2017 (2017), http://meaindia.nic.in/cdgeneva/?6353?000.

[55] PERMANENT MISSION OF PAKISTAN TO THE UNITED NATIONS AND OTHER INTERNATIONAL ORGANIZATION, STATEMENT OF THE REPRESENTATIVE OF PAKISTAN, GENERAL DEBATE OF THE UNGA FIRST COMMITTEE (2016), http://www.pakistanmission-un.org/2005_Statements/CD/1stcom/20161014.pdf.

[56] PAKISTAN ARMY, 23RD MEETING OF THE NATIONAL COMMAND AUTHORITY (2017), https://www.pakistanarmy.gov.pk/AWPReview/pDetailscb9b.html?pType=PressRelease&pID=1336.

[57] Jatindra Dash, *India tests Agni-V, capable of reaching China,* REUTERS, Apr. 19, 2012.

[58] Mark Urban, *Saudi Nuclear Weapons 'On Order' from Pakistan*, BBC NEWS, Nov. 6, 2013.

In fact, several states – such as Ukraine and South Africa[59] – gave up their nuclear weapons programmes to accede to the NPT only due to political coercion. Their involuntary practice cannot be assessed in the determination of a custom.[60]

2. OPINIO JURIS

Consider the preparatory work of the NPT. Negotiated as a voluntary compromise between states,[61] its purpose was to create a balance between the obligations of nuclear and non-nuclear states in 1968. It is unlikely that adherence to the NPT shows the "acceptance" of a non-proliferation obligation as law: Article X of the NPT contains an opt-out clause, allowing member states to withdraw their accession owing to national security concerns.[62] This indicates that the NPT does not create any norm that is unconditionally binding – instead, obligations are voluntarily assumed, with the option of deviation pursuant to a self-judging clause.[63] For this reason, the NPT has even been characterised as a contractual treaty, instead of a law-making treaty.[64] Thus, the alleged non-proliferation norm lacks clear *opinio juris.*

In conclusion, the lack of *opinio juris* and state practice have prevented the formation of a customary rule on non-proliferation. In South Asia, India[65] and Pakistan[66] have explicitly clarified that their restraints against uncontrolled nuclear proliferation are unilateral and voluntary, not motivated by any impending legal obligation. In conclusion, the lack of *opinio juris* and state practice

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[59] NPT Review Conference, *Final Document of the Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons: Documents issued at the Conference*, NPT/CONF/35/III (Part II) (1975).

[60] Asylum (Colom. v. Peru), Judgment, 1950 I.C.J. Rep. 266, 277 (Nov. 20).

[61] ROLAND POPP, LIVIU HOROVITZ AND ANDREAS WENGER, NEGOTIATING THE NUCLEAR NON-PROLIFERATION TREATY: ORIGINS OF THE NUCLEAR ORDER 9 (2017).

[62] Treaty on the Non-Proliferation of Nuclear Weapons art. X, Mar. 5, 1970, 21 U.T.S. 485, 729 U.N.T.S 161.

[63] OLIVER DÖRR & KIRSTEN SCHMALENBACH, VIENNA CONVENTION ON THE LAW OF TREATIES: A COMMENTARY 1025 (2012).

[64] DAN JOYNER, INTERNATIONAL LAW AND THE PROLIFERATION OF WEAPONS OF MASS DESTRUCTION 8 (2009).

[65] PERMANENT MISSION OF INDIA TO CONFERENCE ON DISARMAMENT, STATEMENT BY AMBASSADOR AMANDEEP SINGH GILL, PERMANENT REPRESENTATIVE OF INDIA TO THE CONFERENCE ON DISARMAMENT DURING THE THEMATIC DISCUSSION ON THE NUCLEAR WEAPONS CLUSTER OF THE FIRST COMMITTEE OF THE GENERAL ASSEMBLY ON OCTOBER 12, 2017 (2017), http://meaindia.nic.in/cdgeneva/?6452?000.

[66] CTBTO PREPARATORY COMMISSION, STATEMENT OF PAKISTAN FOR THE 20 YEARS OF CTBT MINISTERIAL MEETING (2016), https://www.ctbto.org/fileadmin/user_upload/statements/2016_Ministerial_Meeting/Pakistan.pdf.

ii. NUCLEAR DISARMAMENT AS A CUSTOMARY RULE

Article VI of the NPT impels Contracting Parties to, in good faith, participate in negotiations geared to achieve complete elimination of nuclear weapons.[67] Unlike Article II, this obligation is equally binding upon NWS and NNWS.[68] The ICJ has recognised this as an *erga omnes* obligation, owed to the international community at large.[69] However, it has refrained from ruling on its customary status on two occasions.[70] Hence, the existence of adequate state practice and *opinio juris* rendering Article VI 'customary' remains debatable.

As opposed to non-proliferation, the rule seeking nuclear disarmament finds greater support in state practice. In addition to the 190 NPT states that must adhere to Article VI, non-parties have voiced support for negotiating disarmament. While Israel has committed itself to bilateral disarmament negotiations,[71] India and Pakistan have repeatedly reiterated their intention to negotiate in the United Nations Conference on Disarmament.[72] Perhaps the only state openly in disagreement is the DPRK[73] – but this isolated deviation would not impede the formation of a 'virtually uniform' custom. Even evidence of *opinio juris* can be found fairly easily– a series of UNGA resolutions calling for multilateral negotiations and time-bound programmes on elimination of nuclear weapons through a comprehensive convention have been passed over the years with great support.[74]

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[67] Treaty on the Non-Proliferation of Nuclear Weapons art. VI, Mar. 5, 1970, 729 U.N.T.S 161.

[68] Christopher A. Ford, *Debating Disarmament: Interpreting Article VI of the Treaty on the Non-Proliferation of Nuclear Weapons,* 3 THE NON-PROLIFERATION REV. 401, 402 (2007).

[69] Legality of the Threat or Use of Nuclear Weapons, Advisory Opinion, 1996 I.C.J. Rep. 226, ¶ 103 (Jul. 8).

[70] Legality of the Threat or Use of Nuclear Weapons, Advisory Opinion, 1996 I.C.J. Rep. 226 (Jul. 8); Obligations Concerning Negotiations Relating to Cessation of the Nuclear Arms Race and to Nuclear Disarmament (Marshall Islands v. India), Jurisdiction and Admissibility, Judgment, 2016 I.C.J. Rep. 255 (Oct. 5).

[71] IAEA, STATEMENT BY DR. SHAUL CHOREV, DIRECTOR GENERAL TO THE 53RD GENERAL CONFERENCE OF THE INTERNATIONAL ATOMIC ENERGY AGENCY (2009), https://www.iaea.org/About/Policy/GC/GC53/Statements/israel.pdf.

[72] PERMANENT MISSION OF INDIA TO CONFERENCE ON DISARMAMENT, STATEMENT BY AMBASSADOR AMANDEEP SINGH GILL, PERMANENT REPRESENTATIVE OF INDIA TO THE CONFERENCE ON DISARMAMENT DURING THE FORMAL PLENARY MEETING OF THE CONFERENCE ON DISARMAMENT ON AUGUST 22, 2017 (2017), http://meaindia.nic.in/cdgeneva/?6353?000; STATEMENT BY AMBASSADOR ZAMIR AKRAM, PERMANENT REPRESENTATIVE OF PAKISTAN TO THE UN AND OTHER INTERNATIONAL ORGANIZATIONS ON NUCLEAR DISARMAMENT, CONFERENCE ON DISARMAMENT (2012) https://unoda-web.s3accelerate.amazonaws.com/wpcontent/uploads/assets/media/734F65CF40331763C1257A06003D8BB7/file/Pakistan.pdf.

[73] UNITED NATIONS, STATEMENT BY H.E. PAK KIL YON, VICE-MINISTER OF FOREIGN AFFAIRS, CHAIRMAN OF THE DELEGATION OF THE DEMOCRATIC PEOPLE'S REPUBLIC OF KOREA AT THE SIXTY-THIRD SESSION OF UNGA (2008), http://www.un.org/ga/63/generaldebate/pdf/dprkorea_en.pdf.

[74] G.A. Res. 69/48, A/RES/69/48 (Dec. 11, 2014); G.A. Res. 69/52, A/RES/69/52 (Dec. 2, 2014); G.A. Res. S-10/2, A/RES/S-10/2 (Jun. 1978).

However, variance from this alleged norm is available in plenty. 'Specially affected' NPT members such as the NWS have refrained from negotiating towards *complete* disarmament[75] - committing themselves instead to a mere reduction of stockpiles. Pakistan and Israel have recused themselves from similar negotiations,[76] since these do not address regional security concerns. In fact, India and Pakistan's position with respect to disarmament negotiations is rather telling: they do not believe that such negotiations are obligatory, but opt to participate motivated by a sense of international co-operation.[77]

Moreover, these states obliquely act in disregard of Article VI's demands of complete denuclearization. The reduction of stockpiles has been accompanied with modernisation of nuclear weapons and increased allocation of state funding towards nuclear development programmes.[78] India has tested four nuclear capable missiles since January 2018 to no reprimand from the international community.[79] In fact, its INS Arighat programme, aimed at developing a greater pedigree of nuclear weapons as compared to INS Arihant, is presently undergoing trials.[80] Pakistan has also reaffirmed its commitment to 'Full Spectrum Deterrence' through development of nuclear weapons of all three forms – strategic, operational and tactical – with full range coverage of the large Indian land mass and its outlying territories.[81]

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[75] G.A. Res. 69/48, A/RES/69/48 (Dec. 11, 2014); G.A. Res. 68/58, A/RES/68/58 (Dec. 11, 2013); G.A. Res. 69/37, A/RES/69/37 (Dec. 11, 2013); ICAN, FRANCE, UNITED KINGDOM, UNITED STATES EXPLANATION OF VOTE (2016), http://www.icanw.org/wp-content/uploads/2016/10/France-UK-and-US-EOV.pdf; ICAN, RUSSIA EXPLANATION OF VOTE (2016), http://www.icanw.org/wp-content/uploads/2016/10/Russia-EOV.pdf.

[76] ISRAEL ATOMIC ENERGY COMMISSION, STATEMENT BY DR. SHAUL CHOREV AT THE 53RD GEN. CONF. OF IAEA (2009), http://iaec.gov.il/About/SpeakerPosts/Documents/IAEA%20statement%20Sep2012.pdf; REACHING CRITICAL WILL, EXPLANATION OF VOTE ON DRAFT RESOLUTIONS ENTITLED "TAKING FORWARD MULTILATERAL NUCLEAR DISARMAMENT NEGOTIATIONS" (2017), http://reachingcriticalwill.org/images/documents/Disarmament-fora/1com/1com16/eov/L41_Pakistan.pdf.

[77] Obligations concerning Negotiations relating to Cessation of the Nuclear Arms Race and to Nuclear Disarmament (Marshall Islands v. India), Counter Memorial of India, 40 (Sept. 16, 2015).

[78] OFFICE OF THE SECRETARY OF DEFENSE, UNITED STATES NUCLEAR POSTURE REVIEW (2018), https://media.defense.gov/2018/Feb/02/2001872886/-1/-1/1/2018-NUCLEAR-POSTURE-REVIEW-FINAL-REPORT.PDF.

[79] Franz-Stefan Gady, *India Tests 4th Nuclear-Capable Ballistic Missile This Month*, THE DIPLOMAT (Feb. 22, 2018).

[80] HOWARD M HENSEL & AMIT GUPTA, NAVAL POWERS IN THE INDIAN OCEAN AND THE WESTERN PACIFIC 177 (1st ed. 2018).

[81] Arka Biswas, *Pakistan's Tactical Nukes: Relevance and Options for India,* 40(3) THE WASHINGTON QUARTERLY 169-86 (2017).

Beyond South-Asia, Xi Jinping's 'China Dream' programme is attempting to speed up the commission of nuclear-attack submarines into China's naval forces.[82] The United States' Nuclear Posture Review, 2018, stipulates that it will sustain and replace its nuclear capabilities, modernize NC3, and strengthen the integration of nuclear and non-nuclear military planning to combat nuclear or non-nuclear aggression against the United States and its allies.[83] In conjugation with this, the US Military Budget 2017 has increased state funding allocated for proliferation and modernisation of nuclear weapons.[84] In 2018, the United Kingdom swore by its 'Continuous At Sea Deterrence' policy by commissioning the Dreadnought class nuclear-armed submarines, an improvement over the existing Vanguard class.[85] Russian President Vladimir Putin instituted a similar Naval Policy Doctrine of nuclear deterrence through modernisation in 2017.[86]

C. IMPACT ON SOUTH-ASIAN DENUCLEARIZATION

The foregoing section indicates that state practice and *opinio juris* for nuclear non-proliferation and disarmament falter on several fronts. Significantly, they fail to achieve the necessary uniformity to trigger formation of a custom. This precludes the possibility of compelling negotiations for complete nuclear disarmament in South Asia, through an NWFZ Treaty or otherwise. While the six other countries of this region are parties to the NPT and protected from NWS aggression thereunder,[87] they are not protected from the nuclear powers *within* their region - India and Pakistan - since they have no disarmament or non-proliferation obligations, as demonstrated above.

It is asserted that since the NPT creates distinct rules for NWS and NNWS,[88] it cannot crystallize a *uniform* custom against manufacture or possession of nuclear

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[82] Harsh V Pant & Pushan Das, *China's Military Rise and the Indian Challenge*, ORF ONLINE (Apr. 19, 2018).

[83] OFFICE OF THE SECRTARY OF DEFENSE, 2018 NUCLEAR POSTURE REVIEW OF THE UNITED STATES OF AMERICA (2018) https://media.defense.gov/2018/feb/02/2001872886/-1/-1/1/2018-nuclear-posture-review-final-report.pdf.

[84] U.S. DEPARTMENT OF DEFENSE, DEPARTMENT OF DEFENSE (DOD) RELEASES FISCAL YEAR 2017 PRESIDENT'S BUDGET PROPOSAL (2017), https://www.defense.gov/News/News-Releases/News-Release-View/Article/652687/department-of-defense-dod-releases-fiscal-year-2017-presidents-budget-proposal/.

[85] MINISTRY OF DEFENCE, POLICY PAPER ON DREADNOUGHT SUBMARINE PROGRAMME: FACTSHEET (2018) https://www.gov.uk/government/publications/successor-submarine-programme-factsheet/successor-submarine-programme-factsheet#continuous-at-sea-deterrence.

[86] Richard Connolly, *Towards a Dual Fleet? The Maritime Doctrine of the Russian Federation and the Modernisation of Russian Naval Capabilities, in* CENTER FOR SECURITY STUDIES 2-6 (2018).

[87] UNITED NATIONS OFFICE FOR DISARMAMENT AFFAIRS, TREATY ON THE NON PROLIFERATION OF NUCLEAR WEAPONS: STATUS OF THE TREATY, http://disarmament.un.org/treaties/t/npt (last visited Jan. 12, 2018).

[88] Treaty on the Non-Proliferation of Nuclear Weapons arts. I-II, Mar. 5, 1970, 21 U.T.S. 485, 729 U.N.T.S 161; Dan Joyner, *North Korea Links to Building a Nuclear Reactor in Syria: Implications for International Law,* 12 A.S.I.L. (2008).

weapons.[89] In fact, it legitimizes their possession in light of its indefinite extension in 1995 for NWS.[90] Given their continuous opposition to the NPT since its inception in 1968, India and Pakistan can be considered 'persistent objectors' to the Treaty and any customary obligations emerging therefrom.

The preceding discussion has threefold ramifications on South Asia: *first,* it implies that the nations in this region, primarily India and Pakistan, are not restricted under customary international law from bearing nuclear arms. *Second,* the lack of the customary status of Article VI implies these countries cannot be compelled to negotiate an SANWFZ. *Third,* even if a such a customary obligation to negotiate disarmament in good faith can be traced in the near future, it is unlikely that India and Pakistan could be brought to the negotiating table for an SANWFZ pursuant to the same – courtesy, their status as persistent objectors to this alleged custom.

III. RATIONALE AND FEASIBILITY OF A SOUTH ASIAN NWFZ

India and Pakistan are proponents of nuclear deterrence, which postulates that proliferation can deter nuclear aggression through the promise of retaliation and mutually assured destruction. India's posture was triggered by Chinese nuclearization in the aftermath of Indo-China border clash, among other pan-Asian nuclear threats.[91] In furtherance of this, India is developing a triad of nuclear delivery systems.[92] Conversely, Pakistan's 1998 nuclear tests were touted as a necessary response to India's nuclearization.[93] While denouncing the first-use policy, Pakistan maintains that its denuclearisation is contingent on simultaneous disarmament by India.[94]

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[89] James Green, *India's status as a Nuclear Weapons Power Under Customary International Law*, 24 N.L.S.I.U. REV. 125, 129 (2012).

[90] NPT Review Conference, *Decision of the Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons: Documents issued at the Conference* (Part I) Decision 3, Annex, ¶ 5, NPT/CONF.1995/32 (Part I) (1995); NPT Review Conference, *Final Document of the Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons: Documents issued at the Conference* (Part III), NPT/CONF.1995/32 (Part III) 35, 56, 91, 111 (1995).

[91] Mika Kerttunen, *'A Responsible Nuclear Weapons Power' – Nuclear Weapons and Indian Foreign Policy* 152 (Helsinki: National Defence University Department of Strategic and Defence Studies, 2009); *India's Draft Nuclear Doctrine*, ARMS CONTROL TODAY, July/August 1999, www.armscontrol.org.

[92] Jawad Iqbal, *Nuclear tensions rising in South Asia*, BBC NEWS, Apr. 14, 2015.

[93] ACRONYM INSTITUTE FOR DISARMAMENT DIPLOMACY, TEXT OF PRIME MINISTER MUHAMMAD NAWAZ SHARIF STATEMENT AT A PRESS CONFERENCE ON PAKISTAN NUCLEAR TESTS (1998), http://www.acronym.org.uk/old/news/pakistan-nuclear-tests-28-30-may-1998-1?page=show; Scott D. Sagan, *The Evolution of Pakistani and Indian Nuclear Doctrine, in* INSIDE NUCLEAR SOUTH ASIA 219-20 (Scott D. Sagan ed. 2009).

[94] INTER-SERVICES PUBLIC RELATIONS, PRESS RELEASE NO. PR166/2011-ISPR (Jul. 14, 2011) http://www.ispr.gov.pk/front/main.asp?o=t-press_release&id=1796.

Proposals for an SANWFZ draw mixed reactions: while opponents draw parallels from the Cold War to assert that the Indo-Pak hostility can be reigned in simply through the fear of escalation of minor conflicts into nuclear war, proponents are unwilling to place their bets on the uncertainty of subjective state conduct.

A. BACKGROUND OF THE SANWFZ PROPOSAL

The idea was first voiced by the IAEA in 1972,[95] following India's *Pokhran* tests.[96] Accordingly, the UNGA's 29th Session incorporated discussions concerning the 'Declaration and Establishment of a Nuclear-Free Zone in South Asia' in its agenda.[97]

i. PAKISTAN'S PROPOSAL

Premised on comprehensive regional denuclearisation, negative security assurances by NWS (assurances to refrain from using nuclear weapons against NNWS),[98] and a robust safeguard and verification mechanism, Pakistan's proposal called upon the UN to broker negotiations for the SANWFZ, after proclaiming it as such.[99] While the extent of UN intervention in these negotiations was diminished in subsequent proposals, [100] such intervention formed the basis of all draft resolutions prepared by Pakistan. The procedure proposed vide these resolutions drew support from Maldives.[101]

This proposal also aimed to alleviate concerns of horizontal proliferation in the region. Since the other states in the region had abandoned the acquisition of nuclear weapons, it was asserted that giving this a multilateral form would be a confidence building measure for regional security.[102]

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[95] P.S. Jayaramu, *Nuclear Weapon-Free Zone, Non-Proliferation Treaty and South Asia* 13(1) ISDA J. 133 (1980).

[96] S. YASMEEN, *The Case for a South Asian Nuclear-Weapon-Free Zone, in* NUCLEAR-WEAPON-FREE ZONES 159 (Ramesh Thakur ed., 1998).

[97] S. YASMEEN, *The Case for a South Asian Nuclear-Weapon-Free Zone, in* NUCLEAR-WEAPON-FREE ZONES 158 (Ramesh Thakur ed., 1998).

[98] UNITED NATIONS OFFICE, A BRIEF HISTORY OF MULTILATERAL PROPOSALS ON NEGATIVE SECURITY ASSURANCES (2018), https://unog.ch/80256EDD006B8954/(httpAssets)/83E6079CB7F038CBC125829D005344AA/$file/69907424.pdf.

[99] U.N. GAOR, 42nd Sess. at 3-6, U.N. Doc. A/42/452 (Aug. 11, 1987).

[100] G.A. Res. 50/67, A/Res/50/67 (Jan. 9, 1996).

[101] U.N. GAOR, 42nd Sess. at 2, U.N. Doc. A/42/452 (Aug, 11, 1987).

[102] United Nations Office on Disarmament, *Study on all aspects of Regional Disarmament*, 3 U.N. Study Series 24 (1981), https://www.un.org/disarmament/publications/studyseries/no-3/.

ii. INDIA'S RESPONSE

India's primary opposition to this proposal was the lack of consensus between South-Asian states: it argued, with support from Bhutan and Sri Lanka,[103] that an agreement between regional constituents must precede any UN-led negotiations.[104]India also expressed concerns over isolating South Asia from the Asian, or even the Asia-Pacific region in the tabled proposal – stating, unlike Africa or Latin America, these regions could not be considered distinct in such proposals, owing to their geographical and diplomatic proximity.[105] In the ensuing discussions, it re-emphasized the impact of Chinese proliferation on a potential SANWFZ[106]

In this light, India presented an alternate draft resolution to the UNGA – one that did not discount the need for creation of a SANWFZ, provided that such an initiative was preceded by agreement between the concerned states. Both resolutions were adopted without a vote in the General Assembly.[107]

B. ESTABLISHMENT OF A SANWFZ: PROBLEMS AND PROSPECTS

i. NATIONAL SECURITY INTERESTS

States continue to condemn horizontal proliferation of nuclear weapons.[108] However, Article VI has been largely unsuccessful in addressing vertical proliferation, especially modernisation of nuclear weapons.[109] NWFZ treaties evolved in this global context. The Tlatelolco and Rarotonga treaties were prompted by the Cuban missile crisis of 1962[110] and French nuclear tests in South-

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[103] Institute of Foreign Affairs, *Address by Jigme Singye Wanchuk, King of Bhutan at the Third SAARC Summit, Inaugural Session, 24 November 1983, Kathmandu, Nepal*, 116 SAARC SUMMITS (COLLECTION OF STATEMENTS) 7 (1990), https://ifa.org.np/wp-content/uploads/2012/07/SAARC.pdf; U.N. GAOR, 42nd Sess. at 6, U.N. Doc. A/42/452 (Aug, 11, 1987).

[104] United Nations Office on Disarmament, *Study on all aspects of Regional Disarmament*, 3 U.N. Study Series 24 (1981), https://www.un.org/disarmament/publications/studyseries/no-3/.

[105] U.N. GAOR, 29th Sess. at 26-7, U.N. Doc. A/C.IIPV.2016.

[106] John Maddox, *Prospects for Nuclear Proliferation*, ADELPHI_PAPERS 22 (1975).

[107] GOVERNMENT OF INDIA, MINISTRY OF EXTERNAL AFFAIRS, ANNUAL REPORT 1974-75 (1975), https://mealib.nic.in/?pdf2502?000.

[108] G.A. Res. 51/45, A/RES/51/45 (Jan. 10, 1997); G.A. Res. 45/62C, A/RES/45/62C (Dec. 4, 1990); U.N. GAOR, 63rd Sess., 61st plen. mtg. at 4, U.N. Doc. A/63/PV.61 (Dec. 2, 2008); G.A. Res. 72/39, A/RES/72/39 (Dec. 12, 2017); G.A. Res. 65/65, A/RES/65/65 (Jan. 13, 2011); G.A. Res. 69/48, A.RES/69/48 (Dec. 11, 2014).

[109] ARMS CONTROL ASSOCIATION, US NUCLEAR MODERNISATION PROGRAMS (2018), https://www.armscontrol.org/factsheets/USNuclearModernization; Ray Acheson, *Nuclear Modernization in China*, *in* ASSURING DESTRUCTION FOREVER: NUCLEAR WEAPON MODERNIZATION AROUND THE WORLD (2012).

[110] MÓNICA SERRANO, COMMON SECURITY IN LATIN AMERICA: THE 1967 TREATY OF TLATELOLCO 19-22 (1992).

Pacific respectively.[111] The Bangkok Treaty attempts regional solidarity against China's growing nuclear capability.[112]

However, these NWFZ treaties have failed to generate support from NWS. For instance, the five permanent UNSC members have expressed several reservations against the Bangkok Treaty's protocols.[113] The United States has failed to ratify protocols to the Rarotonga Treaty, which prohibits it from testing, using or threatening the use of nuclear weapons in this zone.[114] The Pelindaba Treaty protocols have been signed with several reservations, preserving the right to use nuclear weapons in extremities.[115] In fact, the non-use protocols of NWFZ treaties bind only NPT parties.[116] Consequently, they do not protect nations against nuclear threats from non-parties to the NPT, such as Israel and North Korea, the latter of which is a significant, geographically proximate threat to South Asian nations.

Given the absence of unconditional negative security assurances by states that possess nuclear weapons, an SANWFZ only aggravates the inequality contained in the NPT regime - by imposing onerous obligations upon states that abandon their nuclear proliferation, as opposed to little-to-no constraints on states that possess weapons with operational readiness. The contribution of an SANWFZ to regional and global security regimes would not be substantial improvement over status quo.

ii. GEOSTRATEGIC CONSTRAINTS

The viability of an SANWFZ must be contemplated whilst accounting for the special features of a region – here, it is pertinent to note that the Pelindaba, Antarctic, and Tlatelolco treaties envisage entire continents. While the Rarotonga Treaty is extended to a sub-zone (South Pacific), the region it encompasses is strategically isolated, allowing for this treaty to function successfully. Contrast

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111 MICHAEL HAMEL-GREEN, THE SOUTH PACIFIC NUCLEAR FREE ZONE TREATY: A CRITICAL ASSESSMENT 2 (1990).

112 RAMESH THAKUR, NUCLEAR FREE-WEAPON ZONES 175 (1998).

113 NUCLEAR THREAT INITIATIVE, SOUTHEAST ASIAN NUCLEAR-WEAPON-FREE-ZONE (SEANWFZ) TREATY (BANGKOK TREATY) (2018), http://www.nti.org/learn/treaties-and-regimes/southeast-asian-nuclear-weapon-free-zone-seanwfz-treaty-bangkok-treaty/.

114 NUCLEAR THREAT INITIATIVE, SOUTH PACIFIC NUCLEAR-FREE ZONE (SPNFZ) TREATY OF RAROTONGA (2018), http://www.nti.org/learn/treaties-and-regimes/south-pacific-nuclear-free-zone-spnfz-treaty-rarotonga/.

115 NUCLEAR THREAT INITIATIVE, AFRICAN NUCLEAR-WEAPON-FREE-ZONE (ANWFZ) TREATY (PELINDABA TREATY) (2018), http://www.nti.org/learn/treaties-and-regimes/african-nuclear-weapon-free-zone-anwfz-treaty-pelindaba-treaty/; U.S DEPARTMENT OF STATE, STATEMENT OF STEPHEN G. RADEMAKER AT THE THIRD MEETING OF THE PREPCOM FOR THE 2005 NPT REVIEW CONFERENCE (2004), https://2001-2009.state.gov/t/ac/rls/rm/2004/32294.htm.

116 MICHAEL HAMEL-GREEN, THE SOUTH PACIFIC NUCLEAR FREE ZONE TREATY: A CRITICAL ASSESSMENT 40 (1990).

these against South Asian region – South Asia is a geopolitical entity, but it has never been a geostrategic one. It has largely faced extra-regional nuclear threats: most prominently, the USS Enterprise from the United States of America in 1971, which was carrying nuclear weapons on board.[117] The many nuclear neighbours in immediate vicinity of this region compel the consideration and formation of a wider, inclusive Asian NWFZ.

In fact, the strategic relations of the nuclear powers in the South Asian region also indicate the shortcomings of the proposed NWFZ – While India has been perceived to have close Soviet ties,[118] Pakistan has solidified its alliance with the United States in the past, and China in the recent times.[119] This includes development of nuclear arms – thus necessitating a wider NWFZ region to effectively sever any impact of these ties. This is especially relevant in light of the Indo-Chinese border clashes that have strained relations between the two states in the past, often leading to armed hostilities.[120] The alleged Chinese nuclear umbrella with Pakistan further distorts the balance of power in the region and aggravates the requirement for China's inclusion within the scope of this NWFZ.[121]

Thus, a geographic re-evaluation of the SANWFZ's scope is essential – the Arabian Peninsula, Central Asia, China, and SEANWFZ parties are important stakeholders in the denuclearization of South Asia.

iii. VERIFICATION MEASURES

Another cause for concern are the regional verification measures under these treaties,[122] which serve little meaningful purpose – lack of technical and tactical capabilities render this inspection mechanism flawed in nations which have never grappled with nuclear weapons. In the context of South Asia, regional verification may pose a challenge to states such as Bhutan, Nepal, Sri Lanka, Bangladesh, Afghanistan, and Maldives which have little to no institutional capacity in this regard.

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117 USS ENTERPRISE, NAVAL HISTORY AND HERITAGE COMMAND (1972), https://www.history.navy.mil/content/dam/nhhc/research/archives/command-operation-reports/ship-command-operation-reports/e/enterprise-cvn-65-viii/pdf/1972.pdf.

118 Sandeep Unnithan, *India close to sealing Rs. 23,000 crore lease deal for Russian N-Sub,* INDIA TODAY, Dec. 4. 2018.

119 TV Paul, *Chinese-Pakistani Nuclear/Missile Ties and the Balance of Power*, THE NON-PROLIFERATION REVIEW 4 (2003).

120 B.M. Jain, *India-China relations: issues and emerging trends*, 93 COMMONWEALTH J. INT'L. AFFAIRS 258 (2004).

121 P.L. BHOLA, PAKISTAN-CHINA RELATIONS: SEARCH FOR POLITICO-STRATEGIC RELATIONSHIP 255 (1986); R.K. JAIN, CHINA AND SOUTH ASIAN RELATIONS: 1947-80 158 (1981).

122 Dipankar Banerjee, *The Obstacles to a South Asian Nuclear-Weapon-Free Zone, in* NUCLEAR-WEAPON-FREE ZONES 177 (Ramesh Thakur ed., 1998).

C. COMPARATIVE CASE STUDIES: EVALUATING SUCCESS OF NWFZS IN ASIA-PACIFIC

i. SOUTHEAST ASIAN NUCLEAR WEAPON-FREE ZONE (SEANWFZ)

The SEANWFZ managed to alleviate longstanding concerns about the influence of external powers in the region: for instance, the Vietnam War, the former presence of Soviet/Russian and American military bases in the region (Vietnam and Philippines), and the Cambodian conflict.[123] Its constituent Treaty was successfully negotiated in 1995, entering into force in 1997. The Treaty includes provisions identical to the NWFZ treaties that preceded it,[124] the most prominent of which seeks negative security guarantees from the Permanent Five (P5) nuclear powers not to use, or threaten to use, nuclear weapons against member states.[125]

One way this is attempted is by broadening the *ratione loci* scope of the Treaty:[126] The SEANWFZ territorially extends to the exclusive economic zones (EEZs) of its constituents. It bans the use of these EEZs by NWS states to launch nuclear weapons at other regions.[127] It is in this area that the SEANWFZ falters: NWS negative security guarantees pursuant to this treaty are not readily forthcoming. These states have put forth concerns regarding the Zone's extension to the EEZs, and its impact on the transit, transport, and the right to deploy nuclear weapons from international waters within the zone.[128]

Primarily the United States and China, the latter of which has concerns about the inclusion of the EEZs and the disputed South China Sea,[129] have been vocal about their problems.[130] This has precluded their accession to the Treaty's protocols, defeating the Treaty's purpose in part. However, the South-east Asian Region is home to straits widely used by NWS vessels and has borders with two nuclear powers, India and China. Thus, the absence of binding negative security assurances from these states leaves the success of this NWFZ to the mercy of aforesaid states. In addition, several states in the region are yet to terminate their

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123 Michael Hamel-Green, *Nuclear-Weapon-Free Zone Developments in Asia: Problems and Prospects*, 17(3) PACIFICA REV.: GLOBAL CHANGE, PEACE & SECURITY 239, 241 (2005).

124 Treaty on the Southeast Asia Nuclear Weapon-Free Zone art. 3, Dec. 15, 1995, 35 I.L.M 635.

125 J. GOLDBLAT, ARMS CONTROL: THE NEW GUIDE TO NEGOTIATIONS AND AGREEMENTS 206 (2002).

126 Treaty on the Southeast Asia Nuclear Weapon-Free Zone art. 2(1), Dec. 15, 1995, 35 I.L.M 635.

127 Treaty on the Southeast Asia Nuclear Weapon-Free Zone art. 3(2), Dec. 15, 1995, 35 I.L.M 635.

128 *U.S. Hesitant About Nuclear-Free Zone*, International Herald Tribune 4 (Feb. 8, 1996).

129 Wendy Frieman, China, Arms Control, and Non-Proliferation 120 (2004).

130 Thomas Graham, *Why U.S. Has Not Signed Protocol to Nuclear Arms Treaty*, NEW STRAITS TIMES, Jun. 24, 1997; PERMANENT MISSION OF THE PEOPLE'S REPUBLIC OF CHINA TO THE U.N., STATEMENT BY AMBASSADOR HU XIAODI AT THE THIRD SESSION OF THE PREPARATORY COMMISSION FOR THE 2005 NPT REVIEW CONFERENCE (Apr. 26, 2004), http://www.china-un.org/eng/chinaandun/disarmament_armscontrol/npt/t92233.htm.

defence pacts with foreign powers.[131] Finally, it seems unlikely that 'negative security assurances' (NSAs) under this Treaty shall be secured till China's ancillary claims over the South China Sea are resolved.

A similar problem may arise in the context of South Asia. The Indian Ocean is a strategic haven for armed vessels, including those with nuclear capabilities. Its inclusion within the proposed areas of denuclearization is consequently essential. This inclusion might prompt a response from the P5 akin to their attitude towards the Bangkok Treaty protocols – in effect, depriving the South-Asian region of negative security assurances and robbing it of its armed capabilities simultaneously. In addition, much like the ancillary claims preventing the NSA under the SEANWFZ, it is likely that volatile Indo-Pak disputes (especially those pertaining to territory) would need to be resolved before an SANWFZ Treaty can fully realize its potential.

Thus, the creation of this SANWFZ is unlikely to comprehensively improve security in the region, and instead potentially compromise its vital security interests in contravention of the basic tenets of a NWFZ.[132]

ii. SOUTH-PACIFIC NUCLEAR WEAPON-FREE ZONE (SPNWFZ)

The 1985 Rarotonga Treaty, whose negotiations were initiated at Australia's behest, includes all independent Southwest Pacific states: Australia, New Zealand, Fiji, Papua New Guinea, Tonga, Western Samoa, Nauru, Solomon Islands, Cook Islands, Vanuatu, and Kiribati.[133] The treaty emerged from concerns over nuclear testing by US, Britain, and France in the Pacific region.[134]

The ambitious proposals for the Treaty included a regional zone that bans nuclear weapon acquisition by all states, in addition to a prohibition on missile testing, nuclear-armed ship visits, nuclear waste dumping, uranium exports, and nuclear-weapon-related communications bases.[135] Unfortunately, the final treaty was only successful in prohibiting nuclear weapon acquisition, land-based stationing, and nuclear testing by NWS in the zone boundaries, including international waters.[136]

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131 The U.S. continues to retain its defence pacts with Thailand and the Philippines.

132 Julio C. Carasales, *Nuclear-Weapon-Zones, Security and Non-Proliferation, in* NUCLEAR NON-PROLIFERATION AND THE NON-PROLIFERATION TREATY 71 (Michael P. Fry, N. Patrick Keatinge et al eds., 2012).

133 NUCLEAR THREAT INITIATIVE, SOUTH PACIFIC NUCLEAR-FREE ZONE (SPNFZ) TREATY OF RAROTONGA (2018), https://www.nti.org/learn/treaties-and-regimes/south-pacific-nuclear-free-zone-spnfz-treaty-rarotonga/.

134 Michael Hamel-Green, *Nuclear Tests in the Pacific, in* THE OXFORD ENCYCLOPAEDIA OF PEACE 264-9 (NJ Young ed. 2010).

135 ROY H. SMITH, THE NUCLEAR FREE AND INDEPENDENT PACIFIC MOVEMENT AFTER MUROROA 227-31 (1997).

136 MICHAEL HAMEL-GREEN, THE SOUTH PACIFIC NUCLEAR FREE ZONE TREATY: A CRITICAL ASSESSMENT (1990).

Simultaneously, Australia is a party to the 1952 ANZUS Security Treaty with the United States of America that mandates their collaborative action to counter threats to security and actions against common danger in the Pacific region.[137] Australia relies on this Treaty to claim protection under the United States nuclear umbrella – thereby implying that the US's arsenal could be employed for its protection within the region regulated by the SPNWFZ.[138] This can be viewed as inherently contradictory to the Rarotonga Treaty's prohibitions.

At the negotiation and conclusion of the Treaty, the Australian Government insisted that the treaty exclude any reference to nuclear transit, missile testing, uranium export or nuclear weapon related installations to accommodate "United States' strategic interests and Australia's alliance obligations."[139] In fact, the proposal was designed to perpetuate the security guarantees available to Australia pursuant to the ANZUS arrangement.[140] Accordingly, Article 5 of the Treaty prohibits nuclear stationing with due regard to a state's sovereign right to choose whether to allow visits by or transit of foreign ships and aircraft to its ports and airfields[141] – thereby accommodating the doctrine of nuclear deterrence effectively.

In furtherance of this, the US has installed several nuclear weapons control systems across Australia,[142] despite the existence of an NWFZ in the region. However, there is no credible nuclear threat in the Pacific region presently. Therefore, extended nuclear umbrellas should ideally find no place in alleviating the security concerns of a region.

Compare and contrast this with the South Asian region: the constituent states comprise of India and Pakistan, two proximate and credible threats within immediate vicinity of each other. Unlike South-Pacific, which faces no need for deterrence based doctrine; there is sufficient support for such a practice in a region with continuous conflicts amongst states. The threat of a nuclear war prohibits

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137 Security Treaty between Australia, New Zealand and the United States of America [ANZUS], Sept. 1, 1951, 1952 A.T.S 2.

138 Raoul E. Heinrichs, *Australia's Nuclear Dilemma: Dependence, Deterrence or Denial,* 4(1) SECURITY CHALLENGES 55, 66 (2008).

139 MICHAEL HAMEL-GREEN, THE SOUTH PACIFIC NUCLEAR FREE ZONE TREATY: A CRITICAL ASSESSMENT 62 (1990).

140 Ramesh Thakur, *Stepping Stones to a Nuclear-Weapon-Free World, in* NUCLEAR-WEAPON-FREE ZONES 16 (Ramesh Thakur ed., 1998).

141 South Pacific Nuclear Free Zone Treaty art. 5, Aug. 6, 1985, 1445 U.N.T.S. 177.

142 DESMOND BALL, A SUITABLE PIECE OF REAL ESTATE: AMERICAN INSTALLATIONS IN AUSTRALIA (1980); AUSTRALIAN PARLIAMENT, AN AGREEMENT TO EXTEND THE PERIOD OF OPERATION OF THE JOINT DEFENCE FACILITY AT PINE GAP, REPORT OF THE JOINT STANDING COMMITTEE ON TREATIES (1999), https://trove.nla.gov.au/work/6435159?selectedversion=NBD21320462; Richard Tanter, *The "Joint Facilities" revisited – Desmond Ball, democratic debate on security, and the human interest, Special Report,* NAUTILUS (Dec. 12 2012), http://nautilus.org/ wp-content/uploads/2012/12/The-Joint-Facilitiesrevisited-1000-8-December-2012-2.pdf.

their escalation – as in the case of India and Pakistan, where no border skirmish has escalated to the level of an armed conflict, nuclear or otherwise. If reliance on deterrent doctrines is seen as necessary in regions without the presence of an overwhelming nuclear threat, its importance cannot be undermined in another region that struggles with nuclear enrichment by two unregulated states. In fact, the presence of Australia and its emphasis on nuclear umbrellas creates another perceptible threat in the extended Asia-Pacific region: one that, perhaps, a SANWFZ is inadequate to address.

iii. CENTRAL-ASIA NUCLEAR WEAPON-FREE ZONE (CANWFZ)

The five states - Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan – that constitute this zone were all formerly part of the Soviet Union. In fact, they were major sites of nuclear testing, nuclear facilities and installations, and uranium mining and processing for nuclear weapons programmes.[143] These states endorsed the CANWFZ in 1997 in light of such historical precedents, US operations in neighbouring Asian regions, and in response to proliferation of US and Soviet military bases in the region.[144]

Deterrent policies instituted by means of nuclear umbrellas are also characteristically present in the CANWFZ: Four of its five member states are parties to the 1992 Tashkent Collective Security Treaty with the Russia (Kazakhstan, Kyrgyzstan, Tajikistan, and Uzbekistan).[145] This might potentially lead to nuclear alliances between Russia and these states.[146] Article 4 of the Tashkent Treaty affords signatories the right to provide 'all necessary assistance, including military assistance' in response to aggression, a wording that could conceivably be interpreted as extending to tactical nuclear weapons and like destructive weapons.[147]

Additionally, the treaty parties are surrounded by several non-treaty states: namely, Russia, Iran and Azerbaijan. Not only does this preclude the inclusion of strong transit, temporary passage, and deployment provisions with respect to the territories and territorial waters of the zone, it also places the zone in direct presence of a nuclear power and conflict-ridden states that are not sufficiently

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[143] Scott Parish, *Prospects for a Central Asian Nuclear-Weapon-Free Zone*, 8 NON-PROLIFERATION REV. 141, 142 (2001).

[144] Murat Laumulin, *Non-Proliferation and Kazakhstani Security Policy*, 5 NON-PROLIFERATION REV. 127, 130 (1998).

[145] Commonwealth of Independent States Collective Security Treaty, May 15, 1992, 1894 U.N.T.S. I-32307.

[146] Jozef Goldblat, *Denuclearization of Central Asia,* DISARMAMENT FORUM, UNITED NATIONS INSTITUTE FOR DISARMAMENT RESEARCH, 4 (2007).

[147] Commonwealth of Independent States Collective Security Treaty art. IV, May 15, 1992, 1894 U.N.T.S. I-32307.

precluded from conducting nuclear activities in the region.[148] These factors undermine the success of the CANWFZ.

In the context of South-Asia, a similar conundrum can be observed: it might be difficult for the treaty to secure the Indian Ocean as a region of peace with the vast number of interested Asian and Pacific nations that are not envisaged as parties to the SANWFZ. Further, the exclusion of important nuclear-capable nations from the scope of this treaty, despite the far-reaching, technically capable and operationally ready proliferation across Asia-Pacific, is a particularly disturbing prospect to the proposed endeavour of securing regional peace in this area.

iv. PROPOSED NORTHEAST-ASIA NUCLEAR WEAPON-FREE ZONE (NEANWFZ)

The Northeast-Asian region has been ridden with conflicts, both historically and in contemporary times: tensions upon division of the Korean Peninsula, occupation during the Second World War, the Korean War, and most recently, DPRK's withdrawal from the NPT in an open attempt to achieve nuclear proliferation and development of delivery systems. This acquisition[149] in conjugation with development of long and short-range missiles currently threatens the security and stability of the region.

A zonal initiative to prevent such developments was attempted in 1992 through the Joint Declaration on the Denuclearization of the Korean Peninsula signed by both North and South Korea. The Declaration urged the parties to refrain from testing, producing, deploying, and undertaking reprocessing and enrichment activities.[150] However, it failed to institute a complementary verification and compliance system, and did not prevent external powers from stationing nuclear weapons in the region.[151] Ultimately, adverse intentions voiced by the DPRK caused these negotiations to fail.

Japan has long advocated for a NEANWFZ[152] - notably, however, it seeks to rely on US bilateral assurances and security guarantees (as does South Korea) to

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148 Scott Parish, *Prospects for a Central Asian Nuclear-Weapon-Free Zone*, 8 NON-PROLIFERATION REV. 141, 145-7 (2001).

149 James Brooke, *North Korea Says It Has Nuclear Weapons and Rejects Talks*, NEW YORK TIMES 3, Feb. 10, 2005.

150 U.S. DEPARTMENT OF STATE ARCHIVE, JOINT DECLARATION ON THE DENUCLEARIZATION OF THE KOREAN PENINSULA (1992), https://2001-2009.state.gov/t/ac/rls/or/2004/31011.htm.

151 J. GOLDBLAT, ARMS CONTROL: THE NEW GUIDE TO NEGOTIATIONS AND AGREEMENTS 205 (2002).

152 Hiromichi Umebayashi, *A Civil Society Initiative for Northeast Asia Security*, INESAP INFORMATION BULLETIN 21, 31-3 (2003).

safeguard itself from potential attacks.[153] The Six-Party talks – effectively boycotted by North Korea[154] – also aimed at arriving at similar regional solutions without much success. The many challenges to such a regional arrangement cannot be ignored at this juncture: the presence of an under-regulated China in a proximate distance in light of the tensions between China and Japan, the Nuclear Umbrella arrangements of the United States with Japan and South Korea, and the continued belief among these regions of reliance on nuclear arsenal of NWS states.[155] Cumulatively, these factors leave the success of the NWFZ in the hands of the NWS states – which for strategic or diplomatic regions, may refrain from altering their positions. A case in point would be the United States's backlash against New-Zealand's complete prohibition of nuclear material within its territory in conflict with the ANZUS Treaty, pursuant to its obligations under the SPNWFZ.[156]

India and Pakistan might face similar conundrums in the negotiation of a SANWFZ – each of these states has alliances with other NWS states that might be difficult to forego, or perhaps invite non-accession to the protocols of the proposed treaty, rendering its effectiveness and coverage moot. In light of these concerns, the negotiation of a SANWFZ not only seems difficult but simultaneously redundant.

IV. CONCLUSION: MAINTAINING DETERRENCE POSTURES IN SOUTH ASIA

The above discussion indicates that NWFZ treaties in and of themselves do not instil confidence of regional security among constituent states. Instead, most extant NWFZs are maintained in addition to deterrent postures of their members, as indicated by South Korea, Japan, and Australia's nuclear alliances. This exposes the inherent weakness of NWFZ treaties – despite garnering consent of parties, they fail to deter proliferation in toto. This shortcoming will only be exacerbated in a region like South Asia, where paramount geostrategic considerations and national security interests are unlikely to be accommodated vide an NWFZ treaty.

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153 Terence Roehrig, *Extended Deterrence and the Nuclear Umbrella, in* JAPAN, SOUTH KOREA, AND THE UNITED STATES NUCLEAR UMBRELLA: DETERRENCE AFTER THE COLD WAR, 13-37 (Terence Roehrig ed., 2017).

154 ARMS CONTROL ASSOCIATION, THE SIX PARTY TALKS AT A GLANCE (2018), https://www.armscontrol.org/factsheets/6partytalks.

155 Hiromichi Umebayashi, *Beyond Unilateral Bilateralism towards a Cooperative Security System in Northeast Asia*, PEACE DEPOT JAPAN (2003).

156 DAVID LANGE, NUCLEAR FREE: THE NEW ZEALAND WAY (1990).

In this light, it becomes essential to appreciate the sustainability of the present deterrence postures of India and Pakistan. There seems little opposition to the legality of broadly deterrent conduct unaccompanied by specific demands or targets. [157] It is widely agreed that sovereign armament policies do not threaten the use of force, [158] but merely express military will of a state in legitimate exercise of its sovereignty. [159] Thus, states recognize the legality and importance of nuclear deterrence by commissioning an increasing number and variety of nuclear weapons. The United States,[160] Russia,[161] United Kingdom, and France[162] all maintain concordant policies in this regard.

Prima facie, deterrent strategies might seem to encourage horizontal proliferation. Yet, in contrast to NWFZs, by promising security and non-use to nations that do not possess nuclear weapons, they prevent any NNWS aspirants from abandoning the NPT in pursuit of nuclearization.[163] That nuclear weapons have prevented war amongst the major powers from fear of obliteration is incontrovertible. Consider the case of United States and Russia, India and China, Pakistan and India, and China and United States in this regard. Essentially, they play the role of a strategic equaliser.[164]

Deterrence took shape as a core United States strategy to prevent the Soviet domination of Western Europe.[165] In similar vein, is widely argued that the NATO stockpile effectively stalled any Russian attempts at venturing into attacks over continental Europe.[166] Also consider the case of Ukraine: while immediate denuclearisation of Ukraine was demanded with urgency post the Soviet disintegration, perhaps Russia's invasions and attacks in the aftermath could

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157 Lord Advocate's Reference No. 1 of 2000, Misc 11/00 H.C.J. (Scot.);

158 Military and Paramilitary Activities in and against Nicaragua (Nic. v. U.S.A), Merits, Judgment, 1986 I.C.J. Rep. 14, ¶ 269 (Jun. 27).

159 Corfu Channel (U.K. v. Alb.), Judgement, 1949 I.C.J. 4, 35 (Apr. 9).

160 UNITED STATES OFFICE OF THE SECRETARY OF DEFENSE, NUCLEAR POSTURE REVIEW 2, 4 (2018), https://media.defense.gov/2018/Feb/02/2001872877/-1/-1/1/EXECUTIVE-SUMMARY.PDF.

161 CARNEGIE ENDOWMENT FOR INTERNATIONAL PEACE, TEXT OF THE NEWLY-APPROVED RUSSIAN MILITARY DOCTRINE (2010), https://carnegieendowment.org/files/2010russia_military_doctrine.pdf.

162 PERMANENT REPRESENTATION OF FRANCE TO NATO, WHITE PAPER ON DEFENSE AND NATIONAL SECURITY (2013), https://otan.delegfrance.org/White-Paper-on-Defence-and-National-Security.

163 ANDREW O'NEIL, ASIA, THE US AND EXTENDED NUCLEAR DETERRENCE: ATOMIC UMBRELLAS IN THE 21ST CENTURY (2013); RORY MEDCALF, WEATHERING CHANGE: THE FUTURE OF EXTENDED NUCLEAR DETERRENCE 22, 24 (2011).

164 Gareth Evans, *Nuclear Deterrence in Asia and the Pacific*, 1(1) ASIA & PACIFIC POL. ST. 102 (2013).

165 Keith Payne and Dale Walton, *Deterrence in the Post-Cold War World, in* STRATEGY IN THE CONTEMPORARY WORLD 165 (John Baylis et al. eds,, 2002).

166 Alan MacMillan and John Baylis, *A Reassessment of the British Global Strategy Paper of 1952*, 8 NUCLEAR HISTORY PROGRAM OCCASIONAL PAPER 28, 30 (1994).

have been stalled if its neighbour could exert a credible deterrent threat against it.

The South Asia region is home to two of the world's nine nuclear powers, and is in close proximity to four others. Here, India and Pakistan presently seek to justify manufacture and possession owing to the 'credible threat' posed by nuclearization of the other state.[167] There are four prominent reasons for maintaining this status quo: *first,* the aforestated insufficiency of Nuclear Weapon Free Zones in this region. *Second,* the policy of 'minimum credible deterrence' relies on the preventive effect of a 'small' number of weapons to reign in regional conflicts, thereby preventing mass proliferation. *Third,* taking stock of the Ukrainian precedent, strategic equality amongst states can be best ensured through a deterrence-based model till a comprehensive nuclear ban is negotiated. *Fourth,* in the absence of any customary obligation of non-proliferation or to negotiate towards disarmament, efforts to attempt an SANWFZ amongst nations of conflicting interests would be poised to fail.

To balance the global interest in nuclear disarmament, these South Asian nations should attempt to mirror China's policy of 'low-level' deterrence: minimal deterrence to benefit from the threat and taboo of nuclear retaliation, while only maintaining passive nuclear programmes to ensure gradual disarmament.[168] Given the futility of an SANWFZ, an interim deterrence policy of this nature ironically seems to be South Asia's best bet towards regional stability at this point in time.

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[167] CENTRE FOR STRATEGIC AND INTERNATIONAL STUDIES, NUCLEAR WEAPONS AND U.S.-CHINA RELATIONS: A WAY FORWARD (2013), https://csis-prod.s3.amazonaws.com/s3fs-public/legacy_files/files/publication/130307_Colby_USChinaNuclear_Web.pdf.

[168] K. Subrahmanyam, *India's N-Doctrine: Still Credible, Still Minimum*, THE TRIBUNE, MAY 16, 2017; Baqir Sajjad Syed, *Pakistan to Retain Full Spectrum Deterrence Policy, The Dawn*, Dec. 22, 2017.

INFLUENCE OF TECHNOLOGY ON SPORTS: A POLICY BASED PERSPECTIVE

Wilfred Synrem*

Down the years, technology has not only impacted sports but has also nourished it. It has invariably influenced sports both positively and negatively. Positive, in the sense, with the aid of technology, the sport can now be made more efficient or quantifiable. On the contrary, the negative influence is witnessed in the form of cheating, where the spirit of the game can inevitably be lost. This paper seeks to elucidate both these influences, predominantly by analyzing and inspecting such recent technologies. The author would be testing the impact of such technologies through a legal analysis i.e. determining whether the implemented technology is well regulated by legislation or not. In addition to the critical issues of data protection and doping, powerful technologies of wearables, Biological Passports, LZR swimsuits, Prostheses, and even Hypoxic Environments, have been elucidated and debated upon. All with the objective to prove that there might exist a phase lag between technology and its controlling legislations.

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INTRODUCTION

Famous Major Baseball league player, Tommy Lasorda, in relation to sports once said, "*The difference between the impossible and the possible lies in a person's determination*". Fascinatingly, another tool that can bridge this gap between the impossible and possible is science and technology. Yes, technology has played a massive role behind the evolution of Sport, since its inception. Ranging from the '*Photo Finish'*, '*Electronic scoring*'[1] and '*instant replays*' to the modern inventions of Goal-line technology, Athlete Biological passports and wearable devices,[2] technology has been integrated with Sport simply to improve it.

When we talk about the impact of technology, we may refer to the improved performances of professionals, via materials such as fiberglass, carbon-fiber and polyurethane.[3](*Fiberglass was implemented in pole vault and javelin, carbon-fiber made the hull in ship-sailing competitions light and stiff, whilst polyurethane had replaced the stiff leather footballs*).

Sport has embraced technology as a boon and will continue to do so. But to what extent it should be benefitted from, until it detriments the sport, is an epiphanic question. Fortunately, there are legislations in place to curb the downfalls of technology. Therefore, this paper deliberates upon the influence of technology over sports by analyzing the suitability and nature of such legislations. The ultimate objective being, to determine whether there is a phase lag between the technologies utilized and its overseeing legislations.

The first section of this paper would not only entail the legal intricacies of the popular NFL (National Football League) wearable devices but also analyze data protection legislations in the US, UK and India. Further, it would deliberate upon the recent European data protection standards set by the General Data Protection Regulation (GDPR) in 2018. The second section focuses on the '*Athlete Biological Passport'* as a peculiar scientific technology, with the help of high-profile doping cases. Finally, the last section of the paper interestingly deals with the legality of sport enhancing inventions as seen in Swimming, Cycling, Golf, Paralympics, and other high endurance sports.

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[1] THE BOSTON GLOBE, https://www.bostonglobe.com/sports/2012/11/03/brief-history-technology-sports/GwvgQafARUbW5SG5ep3cyM/story.html (last visited Dec. 1, 2018).

[2] CATAPULT USA |WEARABLE TECHNOLOGY FOR ELITE SPORTS, http://www.catapultsports.com/media/how-wearable-technology-will-change-sports/ (last visited Dec. 3, 2018).

[3] TECHNOLOGIST | INNOVATION. EXPLAINED., http://www.technologist.eu/the-sports-revolution/ (last visited Dec. 2, 2018).

I. WEARABLE TECHNOLOGY AND DATA PROTECTION

Technology has played a crucial role in the life of the common man, as seen from the '*wearable*' industry. For the past couple of years, performance analysis software has been superimposed with the evolution of wearable technology, in the form of a medical tool, coaching tool and a fitness tool. The idea of "*quantified self*" movement i.e. monitoring personal data through the use of technology has resulted in the growth of this tech industry. Thereby, enticing consumers from both ends of the spectrum i.e. the fitness/health enthusiast and the professional athlete.[4] From a numbers perspective, this booming industry is expected to be worth over 53 billion U.S. dollars by the end of 2019.[5]

A. NFL WEARABLE TECHNOLOGY

Apart from the fact that advanced sports teams implement wearable technology to enhance player performance, this technology also helps as a medical aid and prevents injury through data analysis. Its application is clearly seen in the National Football League (herein "NFL") and other various Rugby clubs, in the form of Athlete Biometric Data (herein "ABD"). For example, in 2015, the NFL had partnered with *Zebra Technologies* in analyzing such Athlete Biometric Data, in order to capture each athlete's acceleration rate and distance covered by the player.[6] In addition, the impact sensors worn behind the ear lobe recorded data and calculated the extent of any injury to the head.[7]These impact sensors were developed to specifically measure concussions to the brain.[8]

Apart from detecting minute changes in a player's performance, they predict the longevity of the player on the pitch.[9] This type of data is unique and dangerous because a player might see a decrease in his pay on macro factors such as age,

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[4] Jonny Madill, *Wearable tech in sport: the legal implications of data collection*, LAWINSPORT (April 9, 2015), https://www.lawinsport.com/articles/item/wearable-tech-in-sport-the-legal-implications-of-data-collection.

[5] JUNIPER RESEARCH, https://www.juniperresearch.com/press/press-releases/smart-wearables-market-to-generate-$53bn-hardware (last visited Dec. 3, 2018).

[6] Kristy Gale, *Data Generated By Wearable Tech Presents Many challenges In Sports*, SPORTTECHIE, (May 13, 2016), https://www.sporttechie.com/data-generated-by-wearable-tech-presents-many-challenges-in-sports/.

[7] Paul Bolton, *Saracens take fight against concussion to new level*, THE TELEGRAPH (Jan 4, 2015, 22:30), http://www.telegraph.co.uk/sport/rugbyunion/club/11324385/Saracens-take-fight-against-concussion-to-new-level.html.

[8] *Id.*

[9] Jared Lindzon, Wearable tech will transform sport – but will it also ruin athletes' personal lives?, THEGUARDIAN (Aug. 9, 2015, 13:00), https://www.theguardian.com/technology/2015/aug/09/wearable-technology-sports-athletes-personal-lives

prior sustained injuries and other biometric data. Therefore, NFL players have constantly stressed upon their absolute ownership over such personal data.

B. DATA PROTECTION LEGISLATIONS IN THE US, UK AND INDIA

i. UNITED STATES

Unsurprisingly, the technology behind ABD (Athlete Biometric Data) has a massive backdrop in terms of its legal aspects. There are currently no existing laws or legislations in the US which directly addresses the legal challenges posed by ABD. It is also of no certainty as to who owns such biometric data. However, most certainly, if biometric data were to be available in public domain, the usage of such data by third parties in the US would be constitutionally protected under the First Amendment of the US Constitution. This was held in the case of *C.B.C. Distribution and Mkting, Inc. v. Major League Baseball*.[10]

There are many federal laws and independent State laws which protect data in the United States. However, the closest ones related to sports data are the Health Insurance Portability and Accountability Act (HIPAA, 1996) and the Federal Trade Commission (FTC) Act. The HIPAA[11] protects the transmission of data of a healthcare facility and applies to any person or institution involved with the use of such healthcare data.[12] Thus, injury-based data generated from the players would come under the ambit of this legislation. Whereas, under the FTC Act[13], the 'Federal Trade Commission' aids as a *de facto* Data Protection Authority in the US[14] by enforcing data protection regulations on companies (*data processors*) that fail to adopt reasonable security measures. Therefore, any company which deals or handles sports biometric data for any purpose or in any form, would be regulated by the Commission under this broad legislation.

As far as State laws are concerned, the law of privacy is incorporated into the respective Constitutions of the fifty States. Recently, in 2018, all these States had each enacted breach notification laws, that compelled the implementation of certain security requirements and notification of consumers if personal information were compromised.[15] More importantly, some of these State

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[10] Jason Cruz, *Sports and the First Amendment*, 27 MARQ. SPORTS L. REV. 355, 369 (2017).
[11] § 3, HEALTH INSURANCE PORTABILITY AND ACCOUNTABILITY ACT, 1996.
[12] Kayaalp M., *Patient Privacy in the Era of Big Data*, 35 BALKAN MED J. 8, 12 (2017).
[13] § 5, FEDERAL TRADE COMMISSION ACT, 2006.
[14] Jason Weinstein, *The U.S. doesn't have a National Data Protection Authority? Think again*, IAPP (Oct. 16, 2013), https://iapp.org/news/a/america-doesnt-have-a-national-data-protection-authority-think-again/.
[15] Jeewon Kim Serrato, Chris Cwalina, Anna Rudawski, Tristan Coughlin, and Katey Fardelmann, *US states pass data protection laws on the heels of the GDPR*, NORTON ROSE FULLBRIGHT (July 9, 2018), https://www.dataprotectionreport.com/2018/07/u-s-states-pass-data-protection-laws-on-the-heels-of-the-gdpr/.

legislations have expanded the definition of '*personal information*'.[16] The California Consumer Privacy Act which would come into effect in 2020, provides protection to biometric information, identifiers, geological data, audio, electrical, thermal or olfactory information, among others.[17] This Act is deemed to be the strictest local data protection regime within the country[18]. Another popular legal enactment is Colorado's 'House Bill 1128'[19], which ensures the compliance of reasonable security procedures and practices, by third parties who process data on behalf of other entities[20]. Therefore, third party organizations handling sports data would be mandated to comply with firm data protection practices.

Other than data protection rights, biometric data also attract concerns relating to intellectual property, and publicity.[21]Often, athlete data is defined as a '*right'* belonging to an athlete, under NFL player contracts. Based on such contracts, the athlete data may then be used by the NFLPA (National Football League Players Association) and the NFL in nexus with products, services, marketing, etc. Therefore, ABD (Athlete Biometric Data) contracts must be well defined, transparent and explanatory while giving due consideration to the rights of athletes, leagues, teams, and their sponsors.

Conclusively, wearable technology in the US still suffers from discrepancies. Despite the presence of legislations, data of professional sportspersons or enthusiasts cannot be deemed to be completely protected. The gravity of the situation is alarming because technology has been developed to quantify an individual's distances, speed, temperature, heart rate, sleep patterns and calorie intake.[22] Another instance is the recent '*Google Glass'*, a wearable embraced by athletes across the globe.[23] It has the ability to capture, share and archive anything heard or seen by the smart glass user. Therefore, there is a danger of

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[16] *Id.*

[17] § 1798.140, CALIFORNIA CONSUMER PRIVACY ACT, 2018.

[18] Bruce Haring, *California Enacts Nation's Strictest Data Privacy Law*, DEADLINE (June 29, 2018, 14:27), https://deadline.com/2018/06/california-enacts-nations-strictest-data-privacy-law-1202419914/.

[19] Joe Rubino, *Colorado's new consumer data protection law among the most demanding in the country*, THE DENVER POST (Sept. 4, 2018, 06:00), https://www.denverpost.com/2018/09/04/colorado-businesses-consumer-data-protection-law/.

[20] § 6-1-713.5, HB 1128, 2018.

[21] Kristy Gale, *3 Things You Need to Know About How Sports are Impacted by Athlete Biometric Data - Tao of Sports Podcast*, LINKEDIN (June 8, 2016), https://www.linkedin.com/pulse/3-things-you-need-know-how-sports-impacted-athlete-biometric-gale.

[22] Jonny Madill, *Wearable tech in sport: the legal implications of data collection*, LAWINSPORT (April 9, 2015), https://www.lawinsport.com/articles/item/wearable-tech-in-sport-the-legal-implications-of-data-collection.

[23] John Koetsier, *Pro sports first: Tennis player to wear Google Glass at Wimbledon this week*, VENTUREBEAT |TECH NEWS THAT MATTERS (June 20, 2013, 09:44), https://venturebeat.com/2013/06/20/pro-sports-first-tennis-player-to-wear-google-glass-at-wimbledon-this-week/.

unsolicited image sharing which inevitably violates privacy rights vis a vis internet enabling devices.[24]

ii. UNITED KINGDOM

In the United Kingdom, data and information was earlier governed by the Data Protection Act 1998 (DPA).[25] The Act was applicable only when utilized for business purposes or when personal information is processed by organizations (sporting organizations); but not when used in personal capacity.[26]Further, the DPA mainly direct edits wordings upon three categories of persons. *First*, the 'data controller'; one who directs the purpose and the manner with which the data is processed. *Second*, the 'data processor';normally a third party which processes the data on behalf of the controller. *Third*, the 'data subject'; athlete or the individual who is the subject of the personal data.[27]

The DPA 1998 (Data Protection Act) had 6 principles that were very closely related to athletic and sports data in schedule 1 of the Act[28]. The principles directed that data collection and processing was to be made for a specific time-period, with the consent and knowledge of the data subject at every stage. Further, the data collected must be up to date, accurate and have sufficient back-ups. Furthermore, information in the form of data must not be transferred outside of the UK, unless the recipient country had an equivalent level of data protection standards or safeguards.[29]

Let us take up an illustration to understand the principles of data protection better; the German National Football team ('*Die Mannschaft*'). In 2014, they had implemented the Adidas miCoach system into their practice and training sessions for their World Cup preparations.[30] It is an advanced physiological monitoring system which included a small player cell device worn by the players. Not only did it have additional heartbeat sensors but also had iPads connected to it. The coaches along with the performance innovation team at EXOS and Adidas used this technology for in depth analysis.

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[24] Tom Page, *A forecast of the adoption of wearable technology,* 6 IJTD 12, 25 (2015).

[25] DATA PROTECTION ACT, 1998, http://www.legislation.gov.uk/ukpga/1998/29/data.pdf.

[26] Thompson Reuters, *Comparisons: DPA 1998 v GDPR and DPA 2018*, PRACTICAL LAW (2018), https://uk.practicallaw.thomsonreuters.com/w-011-6935?transitionType=Default&contextData=(sc.Default)&firstPage=true&comp=pluk&bhcp=1.

[27] § 1(1), DATA PROTECTION ACT, 1998.

[28] Iain Taker, *Data protection and sport – an uncertain partnership*, LAWINSPORT (Feb. 15, 2012), https://www.lawinsport.com/articles/intellectual-property-law/item/data-protection-and-sport-an-uncertain-partnership.

[29] Thompson Reuters, *Comparisons: DPA 1998 v GDPR and DPA 2018*, PRACTICAL LAW (2018), https://uk.practicallaw.thomsonreuters.com/w-011-6935?transitionType=Default&contextData=(sc.Default)&firstPage=true&comp=pluk&bhcp=1.

[30] SPORTTECHIE, https://www.sporttechie.com/how-the-adidas-micoach-system-has-helped-germany-in-the-world-cup/ (last visited November 30, 2018).

Now, a player (say Thomas Mueller) has specific rights over his personal data. He has to be aware as to why and where the data is being used; whether it is for performance analysis purposes, development of injury prevention techniques or marketing aids. Apart from this, he has the right to even request the data controller to correct any inaccuracy. This is because it could potentially influence team selectors in the wrong way. Relevantly, Adidas and EXOS are the third parties i.e. the data processors, whereas the German National Football team is the data controller.

Certainly, a major concern was the ownership of this personal data and its manipulation rights. However, the bigger unanswered question was as to what extent these third parties could use the personal data of the players which include sensitive data like health, sex life, religious beliefs, etc.[31]

With the growth of technology, employment contracts and ancillary agreements between the players and their respective clubs are becoming more important. The drafting of key provisions is crucial. For example, third party ties which require data to be entered with device manufacturers, broadcasters, sponsors and other anonymous organizations. So much is the advancement in the tech world that these wearables have the capacity to store personal data in the cloud[32] as well as smartphones. Therefore, an organization or party borrowing this data must also be well informed about the laws and provisions governing such obligations.

Fortunately, to regulate such hi-tech data[33] and enhance security standards in cases of third-party 'data processors' within the UK, the Act was recently replaced by the more competent Data Protection Act 2018.[34]United Kingdom, still being a part of the European Union, is under the ambit of the new GDPR (General Data Protection Regulation; *discussed later*). In order to complement the new mandated standard, most of the enacted DPA 2018,is subject to the GDPR.[35] The provision provides for the recordability of offences committed under the Act in the National Police Records, such as s.170 (*unlawful obtaining of data without consent of the Controller*)[36], s. 171 (*re-identifying de-identified personal data*)[37], or s. 173 (*alteration of personal data by controller or processor*)[38], among others.

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[31] *Id.*

[32] Samuel Gibbs, *Court sets legal precedent with evidence from Fitbit health tracker*, THEGUARDIAN (Nov. 18, 2014, 16:03), https://www.theguardian.com/technology/2014/nov/18/court-accepts-data-fitbit-health-tracker.

[33] Elizabeth Denham, *Beyond 2018 – data protection laws built to last*, ICO (May 23, 2018), https://ico.org.uk/about-the-ico/news-and-events/news-and-blogs/2018/05/beyond-2018-data-protection-laws-built-to-last/

[34] DATA PROTECTION ACT, 2018, http://www.legislation.gov.uk/ukpga/2018/12/contents/enacted.

[35] § 1(2), DATA PROTECTION ACT, 2018.

[36] § 170, DATA PROTECTION ACT, 2018.

[37] § 171, DATA PROTECTION ACT, 2018.

[38] § 173, DATA PROTECTION ACT, 2018.

iii. INDIA

On the concept of data protection or in a broader term, 'Privacy', Indian jurisprudence has only developed recently. Earlier, the authoritative decisions of *M.P. Sharma v Satish Chandra*[39], *Kharak Singh v State of U.P.*[40] and *Maneka Gandhi v Union of India,*[41] had negated privacy as a fundamental right. But finally, the Supreme Court in K.*S. Puttaswamy v Union of India*, had declared the right to be a fundamental one and simultaneously emphasized that "*only comprehensive data protection legislation can effectively address concerns of data protection and privacy*".[42]

As far as Indian legislations are concerned, the Information Technology Act and its prescribed Rules govern data protection concerns. Section 43A[43] of the amended Information Technology Act holds body corporates liable for any wrongful loss caused to a person, due to mishandling of sensitive personal data and information. Further, section 72A of the same Act incurs liability, in cases of disclosure of information in breach of the sanctity of contracts[44]. In 2011, following stringent laws of Europe on data protection[45], the Government of India enacted a new regulation namely, the Information Technology (Reasonable Security Practices and Procedures and Sensitive Personal Data or Information) Rules, 2011.These Rules specifically ascertain biometric information, sexual orientation, medical record and history, and other like sportsdata, as "*sensitive personal data*"[46]. In strict juxtaposition these Rules contain similar principles of UK's DPA 1998; thus encourages the amalgamation of technology and sport in India.

C. GDPR: THE NEW STANDARD FOR DATA PROTECTION

Recently, on the 25th of May 2018, the European Union had brought the General Data Protection Regulation (GDPR) into force. This standardized uniform legislation focuses on five key aspects namely transparency, express consent, governance, data processing, and enforcement.[47]Article 13 and 14 of the GDPR mandates that concerned bodies must inform the subject about the purpose and future intentions of processing his data. Further, in the name of transparency

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[39] M.P. Sharma v. Satish Chandra, 1954 AIR 300.
[40] Kharak Singh v. State of UP, 1963 AIR 1295.
[41] Maneka Gandhi v. Union of India, 1978 AIR 597.
[42] K.S. Puttuswamy v. Union of India, (2014) 6 SCC 433, (Separate Opinion, Nariman J, ¶ 10).
[43] § 43A, THE INFORMATION TECHNOLOGY ACT, 2000.
[44] § 72A, THE INFORMATION TECHNOLOGY ACT, 2000.
[45] Vaibhavi Pandey, *India: Data Protection Laws In India: The Road Ahead*, MONDAQ (July 1, 2015), http://www.mondaq.com/india/x/408602/data+protection/DATA+PROTECTION+LAWS+IN+INDIA+THE+ROAD+AHEAD.
[46] § 3, THE INFORMATION TECHNOLOGY ACT, 2000.
[47] Nick Fitzpatrick, *Data Protection and Sport – The key issues to consider*, 16 WSLREPORTS 1, 2 (2018).

Article 5 provides that the information processed must be easily accessible and comprehendible.[48]

Nevertheless, the pinnacle of this legislation can be seen in its active consent-based model. As per Recital 42[49], free consent is presumed not to be given where the data subject has no genuine choice and cannot withdraw consent without detriment. However, there might have been a problem with the absolute right of consent given to the athlete, where the athlete can easily withhold consent in cases of anti-doping and integrity reinforcement. Effectively, the GDPR has carved out an exception for public authorities under article 9 (sports bodies do fall within this ambit because it performs integrity functions in the name of public interest).[50]

Apart from increasing the accountability and responsibility of organizations or third-party processors, the legislation has provided for strict compliance by enforcing strict penalties and sanctions. Article 83(5) of the GDPR[51] could be invoked for fines as much as 4% of the annual turnover of the body/company or 20 Million Euros, whichever is higher. Despite the efforts of the European Union parliament, there has been an ignorant attitude towards the regulation by sporting organizations, according to a GDPR readiness survey.[52] Not only were 84% of sports organizations unaware of the implications of the GDPR, but a staggering 80% of such organizations did not appoint a Data Protection Officer ('DPO').[53] Nonetheless, the strong enforcement regime should keep these organizations active on the sacred principles of data protection.

D. LACUNAS OR CONCERNS AMONG THE THREE JURISDICTIONS OF US, UK, AND INDIA

For a critical analysis of American and Indian jurisprudence on data protection, it must be scrutinized with respect to the GDPR, which embodies international standards of securities and practices. Federal and State legislations in the US only apply general focus on the security of data, and lack European principles of data security, such as transparency, lawful basis for processing, purpose limitation, data minimization, proportionality and retention[54]. Further, rights of data subjects are absent or limited. For example, the right to rectify errors, the right to restrict processing, or the right to register complaints with relevant data

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[48] Art. 5, GENERAL DATA PROTECTION REGULATION, 2016.
[49] Recital 42, GENERAL DATA PROTECTION REGULATION, 2016.
[50] Art. 9, GENERAL DATA PROTECTION REGULATION, 2016.
[51] Art. 83(5), GENERAL DATA PROTECTION REGULATION, 2016.
[52] Sean Cottrell, *Results of Sport Sector GDPR Readiness Survey – Data Protection Report*, LAWINSPORT(Jan. 16, 2018), https://www.lawinsport.com/announcements/item/sport-sector-gdpr-readiness-survey-2018.
[53] *Id.*
[54] INTERNATIONAL COMPARATIVE LEGAL GUIDE, DATA PROTECTION 2018 Chapter 2 (5th ed., Global Legal Group 2018).

protection authorities is unaddressed. Additionally, only specific legislations like the Gramm Leach Bliley Act, HIPAA and the Massachusetts Data Security Regulation provide for the appointment of a Data Protection Officer, which is an essential requirement under International standards.[55]

Similarly, the Information & Technology Act and its Rules in India are underdeveloped compared to the European Regulation. Neither are specific rights of the data subjects explained nor are obligations of data controllers and processors enumerated. Likewise, there is no obligation mandated for the appointment of Data Protection Officers. The main reason behind the premature legislation is the slow realization of the right to privacy within Indian jurisprudence.

Under the aegis of the GDPR, United Kingdom's prime data legislation clearly maintains admirable international standards. However, there prima facie exists few evident concerns within the legislation. First, under Schedule I, para 22 of the 2018 Data Protection Act[56] political parties are permitted to process personal data and profile their '*revealed political opinions*', without the data-subject's consent. This could eventually lead to the abuse of powers by parties, under the name of political activities. Second, under Section 27, the Minister of the Crown can exempt the compliance of various important rights and duties of the Act, for the purposes of national security or defence, by issuing a 'National Security Certificate'.[57] This could go against the spirit of the GDPR and the 2018 DPA, which is to protect personal data and personal liberty.

E. WHO IS THE OWNER OF PERSONAL DATA?

The inevitable problem with data storing technology is the identification of the owner of such data; whether it is the athlete, the data controlling organization, the data processing organization, or other third parties.

'*Ownership'* is defined as the exclusive right to use, possess, and dispose of property, subject only to the rights of persons having a superior interest and to any restrictions on the owner's rights imposed by agreement with or by act of third parties, or by operation of law[58]. Although personal data can be brought within the ambit of personal property, it is still difficult to identify the owner of personal data, with certainty. This is mainly because regulations, like the GDPR, fail to

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[55] INTERNATIONAL COMPARATIVE LEGAL GUIDE, DATA PROTECTION 2018 Chapter 7 (5th ed., Global Legal Group 2018).
[56] Schedule I ¶ 22, DATA PROTECTION ACT, 2018.
[57] § 27, DATA PROTECTION ACT, 2018.
[58] JONATHAN LAW AND ELIZABETH A. MARTIN, A DICTIONARY OF LAW 239 (7th edition, Oxford University Press 2014).

directly express any exclusive ownership rights over such data[59], and simply define the roles of data-subjects, data controllers, and data processors.Therefore, one cannot ascertain either of the three as ultimate owners of the data.

Under the GDPR, data-subjects have innumerable exclusive rights over their data, such as, the right to access of personal data[60], the right to rectify data[61], the right to erasure[62], the right to restriction of processing[63], the right to data portability[64] and the right to object[65], amongst others. However, these rights are subject to restrictions in Article 23, like in clause (g); *the prevention, investigation, detection and prosecution of breaches of ethics for regulated professions*.[66] Therefore, when it comes to ethical conduct or breaches by sportspersons, the concerned sporting authority (a supposed data controller) could have rights over this data and send it for further processing. But this merely does not give ownership rights to the 'Controller' because its role is limited to determining the purpose for which and the means by which personal data is to be processed.[67]

Alternatively, data processors can also be deemed to be owners of personal data. The German Nuremberg Court[68] in 2012, had endorsed the "*Skripturakt*" theory which proposed that the person who generates the data gets the right to the data, irrespective for whom it is generated. In addition, section 950 of the German Civil Code[69] provides that, "*A person who, by processing or transformation of one or more substances, creates a new movable thing acquires the ownership of the new thing, except where the value of the processing or the transformation is substantially less than the value of the substance. Processing also includes writing, drawing, painting, printing, engraving or a similar processing of the surface*". Therefore, according to German laws it can be inferred that data processors can also claim ownership over the personal data it generates and processes for the data controller.

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[59] BENOIT VAN ASBROECK JULIEN DEBUSSCHE JASMIEN CÉSAR, BUILDING THE EUROPEAN DATA ECONOMY 22 (Bird & Bird 2017).
[60] Art. 15, GENERAL DATA PROTECTION REGULATION, 2016.
[61] Art. 16, GENERAL DATA PROTECTION REGULATION, 2016.
[62] Art. 17, GENERAL DATA PROTECTION REGULATION, 2016.
[63] Art. 18, GENERAL DATA PROTECTION REGULATION, 2016.
[64] Art. 20, GENERAL DATA PROTECTION REGULATION, 2016.
[65] Art. 21, GENERAL DATA PROTECTION REGULATION, 2016.
[66] Art. 23(g), GENERAL DATA PROTECTION REGULATION, 2016.
[67] EUROPEAN COMMISSION, https://ec.europa.eu/info/law/law-topic/data-protection/reform/rules-business-and-organisations/obligations/controller-processor/what-data-controller-or-data-processor_en (last visited Sept. 12, 2018).
[68] OLG Nürnberg 1. Strafsenat decision of 23.01.2013, 1 Ws 445/12; BENOIT VAN ASBROECK JULIEN DEBUSSCHE JASMIEN CÉSAR, BUILDING THE EUROPEAN DATA ECONOMY 24 (Bird & Bird 2017).
[69] BENOIT VAN ASBROECK JULIEN DEBUSSCHE JASMIEN CÉSAR, BUILDING THE EUROPEAN DATA ECONOMY 28 (Bird & Bird 2017).

In the author's opinion, since data protection has a consent-based mechanism and that the data subject has the right to be forgotten (complete erasure of data)[70], the data subject is relatively the owner of his personal data, albeit with restrictions. The data controller, on the other hand, only acts as an agent of the data-subject by managing such data. Significantly, the ownership of the data from the processor's point of view, would depend on the type of data it generates. If the data generated comes within the definition of "sensitive or personal data", the data subject would be its owner. However, in other cases, the processor would be the owner. For example, if based on the personal injury details of several hockey players, the data processor generates a statistic for the entire group, with the consent of those hockey players, then the data generated would be property of the data processor. Simply, because it would not fall under the ambit of sensitive or personal information vis a vis the players.

F. FITBIT DATA AND THE WAY FORWARD

Certainly, the age of wearables and hi-tech data has incorporated a new chapter into the textbook of law. For example, wearable technology has been very helpful to the Courts in the form of reliable evidence. Like in a case of a woman who claimed herself raped at night, her Fitbit data indicated that she was awake all night.[71] Hence, she was charged for tampering with evidence and filing false reports. Another example was also seen where a Canadian woman's physical activity was detected following her car accident, and such Fitbit technology is being used as evidence.[72] This very personal injury lawsuit had set up Fitbit health trackers as a precedent.[73]

Regulating such data would be a serious task, but not an impossible one. The GDPR has set new inspiring international standards and furthers the objective of securing fundamental freedoms of natural persons.[74] But most importantly, under Article 45(1), it mandates third countries and international organizations to adopt similar standards of data protection for an inter-transfer of personal data. Therefore, in response, United Kingdom had enacted the DPA 2018 while India

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[70] Art. 17, GENERAL DATA PROTECTION REGULATION, 2016.

[71] Le Trinh, *Can Your Fitbit Data Be Used Against You in Court?,* FINDLAW (July 14, 2015, 14:59), http://blogs.findlaw.com/blotter/2015/07/can-your-fitbit-data-be-used-against-you-in-court.html.

[72] Alexandro Alba, *Police, attorneys are using fitness trackers as court evidence*, DAILY NEWS (April 19, 2016, 15:20),http://www.nydailynews.com/news/national/police-attorneys-fitness-trackers-court-evidence-article-1.2607432.

[73] Samuel Gibbs, *Court sets legal precedent with evidence from Fitbit health tracker*, THEGUARDIAN (Nov. 18, 2014, 16:03), https://www.theguardian.com/technology/2014/nov/18/court-accepts-data-fitbit-health-tracker.

[74] Art. 1, GENERAL DATA PROTECTION REGULATION, 2016.

has the Personal Data Protection Bill 2018 ready for enactment.[75] Under the recommendations of the Srikrishna Committee, the Bill has borrowed principles of the GDPR and enlisted fines greater than five crores or fifteen crores against the data fiduciary[76] (data collector), with respect to categorized breaches.

II. ATHLETE BIOLOGICAL PASSPORT AND DOPING

As an independent governing body, World Anti-Doping Agency's (WADA) goal is to "*promote, coordinate, and monitor*" the fight against doping in all forms of sports.[77] Before the introduction of the biological passport, players were kept in check through direct medical tests.[78] There existed the "*no start rule*" which aimed to prevent athletes from competing if their haemoglobin levels crossed the stipulated limits.[79] The rule was then followed by a more advanced method of detecting doping i.e. through the Athlete Biological Passport.

When compared to the traditional methods of detecting doping, the Athlete Biological Passport (ABP) monitors selected variables that reveal the effects of doping, over time.[80]That itself is modern day technology.

To eliminate problems in relation to the safety of sensitive biological/medical data of tested athletes, the WADA has a well-designed code i.e.the *International Standard for the Protection of Privacy and Personal Information* (ISPPPI). The ISPPPI Code recognizes privacy rights of sportspersons and ensures protection of the same.[81] This International Standard provides mandatory rules and standards relating to the protection of Personal Information by Anti-Doping Organizations.[82] The usual norm of securing, processing, disclosure, retaining and handling of personal data has also been enlisted into the Standard. However, the main highlight of the Code is that,in order to coordinate the distribution of tests and avoid unnecessary duplication of test samples by various anti-doping organizations, each organization shall report all '*In-Competition and Out-of*

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[75] Anjani Wadhwa, *The Personal Data Protection Bill 2018*, MONDAQ (Nov. 1, 2018), http://www.mondaq.com/india/x/750792/Data+Protection+Privacy/The+Personal+Data+Protection+Bill+2018.

[76] Clause 69, PERSONAL DATA PROTECTION BILL, 2018.

[77] James Halt, *Where is the Privacy in WADA's "Whereabouts " Rule?,* 20 MARQ SPORTS L REV 267, 268 (2009).

[78] Zorzoli M, *Biological passport parameters*, 6 J. Hum. Sport Exerc. (i), (i) (2011).

[79] Zorzoli M, *Biological passport parameters*, 6 J. Hum. Sport Exerc. (i), (i) (2011).

[80] WORLD ANTI-DOPING AGENCY, https://www.wada-ama.org/en/questions-answers/athlete-biological-passport (last visited Dec. 3, 2018).

[81] INTERNATIONAL STANDARD FOR THE PROTECTION OF PRIVACY AND PERSONAL INFORMATION, 2015, https://www.wada-ama.org/sites/default/files/resources/files/WADA-2015-ISPPPI-Final-EN.pdf.

[82] *Id.*

Competition' tests on such Athletes to the WADA Clearinghouse as soon as possible.[83]

A. HIGH PROFILE DOPING CASES

The Court of Arbitration for Sport (CAS) has treated Athlete Biological Passports as reliable means to prove doping.[84] In fact, high profile athletes like legendary US cyclist, *Lance Armstrong*, have been caught for doping with the help of their respective 'Athletic Biological Passports'.[85]

However, there have been some stellar cases where the defence has tried to prove discrepancies within the biological passport. In 2014, former cyclist *Jonathan Tiernan-Locke* was given a two-year ban by the UKAD (United Kingdom Anti-Doping) for the manipulation of' Erythropoietin' (EPO) in his own system.[86] His defence contended that a binge drinking session followed by a period of dehydration majorly contributed to the "*wildly abnormal*" readings. Yet, the National Anti-Doping Tribunal[87] had held that the report submitted by the defence did not substantiate as to how alcohol increased haemoglobin levels. Hence, the three-man panel stripped him off the '*Tour of Britain*' title.[88]

Another controversial case was that of the Italian cyclist *Franco Pellizotti* in 2011.[89] His defence team had argued before the Italian Anti-Doping Tribunal that, the blood variations in the biological passport was due to altitude training and was not significant enough to prove his guilt.[90] The Italian Tribunal had adjudged the defendant innocent, but on an appeal to the Court of Arbitration for Sport by the Union Cycliste Internationale (UCI), he was penalized with a two-year ban.[91] And finally, the infamous case of superstar cyclist *Alberto Contador* illustrates the excuse of inadvertent doping. The defence claimed that he had consumed

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[83] Art. 14.5, INTERNATIONAL STANDARD FOR THE PROTECTION OF PRIVACY AND PERSONAL INFORMATION, 2015.

[84] Zorzoli M, *Biological passport parameters*, 6 J. Hum. Sport Exerc. i, x (2011); UCI v Valjavec CAS 2010/A/2235 Para 7.

[85] Matt Slater, *Has the biological passport delivered clean or confused sport?,*BBC SPORT (Nov. 12, 2014) http://www.bbc.com/sport/cycling/29959937.

[86] UKAD, http://www.ukad.org.uk/news/article/ukad-confirms-two-year-ban-for-professional-cyclist/ (last visited Dec. 3, 2018).

[87] UK Anti-Doping for the British Cycling Federation v Jonathan Tiernan Locke, Case No. SR/0000120108.

[88] William Fotheringham, *Jonathan Tiernan-Locke banned for two years and sacked by Sky*, THE GUARDIAN (July 17, 2016, 16:57), https://www.theguardian.com/sport/2014/jul/17/jonathan-tiernan-locke-ban-sacked-team-sky-cycling.

[89] Franco Pellizotti v CONI & UCI, Case No. TAS 2010/A/2308 (June 14, 2011); UCI v Pellizotti, FCI & CONI, Case No. TAS 2011/A/2335 (June 14, 2011).

[90] Franco Pellizotti v CONI & UCI, Case No. TAS 2010/A/2308 (June 14, 2011); UCI v Pellizotti, FCI & CONI, Case No. TAS 2011/A/2335 (June 14, 2011).

[91] Franco Pellizotti v CONI & UCI, Case No. TAS 2010/A/2308 (June 14, 2011); UCI v Pellizotti, FCI & CONI, Case No. TAS 2011/A/2335 (June 14, 2011).

contaminated beef/supplements which contained the banned substance.[92] However, simply on the fact that other cyclists of his team (to whom the same supplements were also provided) did not test positive, the Court of Arbitration for Sport banned him.[93]

III. LEGALITY OF SPORT ENHANCING TECHNOLOGIES

A. SWIMWEAR

The most influential sports equipment within sporting history, in terms of technology, is Swimwear. Prior to the Beijing Olympics of 2008, *Speedo* with the help of NASA tunnel testing had developed a swimwear called the *Speedo LZR Racer* swimsuit.[94] Swimmers who embraced this suit broke 23 and 43 world records in the 2008 Olympics[95] and the 2009 FINA Championship[96], respectively. To exemplify the impact of this technology, we also look at the example of Russian great Alex Popov who held the 100m freestyle record for a decade. The new swimsuit technology was so powerful that by the end of 2009, he was not even ranked in the top 100.[97]

The polyurethane swimsuit fit the whole body from shoulder to calf and was designed to optimize body compression and hydrodynamics.[98] In comprehendible terms, it was built to reduce a swimmer's viscous drag, supply adequate oxygen to the muscles and trap air in order to add to the buoyancy.[99] Actually, these polyurethane suits were legalized in 1999, when FINA (*Fédération internationale de natation*) approved the "*Full Bodysuit*" and the "*Long John suit*".[100] However, there was a FINA rule (SW 10.8) which prevented the use of devices which could the swimmers in speed, buoyancy, or endurance during competitions (such as

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[92] UCI v. Alberto Contador & RFEC, Case No. CAS 2011/A/2384 (Feb. 6, 2012); WADA v. Alberto Contador & RFEC, Case No. CAS 2011/A/2386 (Feb. 6, 2012).

[93] UCI v. Alberto Contador & RFEC, Case No. CAS 2011/A/2384 (Feb. 6, 2012); WADA v. Alberto Contador & RFEC, Case No. CAS 2011/A/2386 (Feb. 6, 2012).

[94] Loura Hall,*A Speedo-NASA partnership after the 2004 Olympics resulted in a swimsuit worthy of world records*, NASA (July 28, 2013),https://www.nasa.gov/offices/oct/home/tech_record_breaking.html.

[95] BREAKING MUSCLE, https://breakingmuscle.com/learn/technology-doping-in-the-olympics-cheating-or-progress (last visited Dec. 1, 2018).

[96] KRUSH PERFORMANCE |THE WORLD LEADER IN PERFORMANCE INFORMATION, http://www.jeffkrush.com/technology-sports-doping/ (last visited Dec. 3, 2018).

[97] BRITANNICA BLOG, http://blogs.britannica.com/2010/02/performance-enhancing-high-tech-swimsuits/ (last visited Dec. 6, 2018).

[98] Jon Bardin, *Is technological doping the strongest force in the Olympics?,* LOS ANGELES TIMES (July 24, 2012), http://articles.latimes.com/2012/jul/24/science/la-sci-sn-is-technological-doping-the-strongest-force-in-the-olympics-20120724.

[99]PDD, http://www.pddinnovation.com/blog/2012/07/technology-in-sport-competitive-edge-or-unfair-advantage/ (last visited Dec. 2, 2018).

[100] Advisory opinion: Australian Olympic Committee (AOC), Case No. CAS 2000/C/267 (May 1, 2000).

webbed gloves, flippers, fins, etc.).[101] But FINA did not interpret those swimsuits as any of the above mentioned devices; thus the legalization of the suits. Ultimately, following the rise of technology, FINA adopted the "*Dubai Charter on FINA requirements for swimwear approval*" within which Section 1.b.ii specified that the materials of the swimwear should not create any air trapping effects.[102] Therefore the LZR suit was banned.

In fact, in *Amaury Leveaux & Aurore Mongel v. Fédération Internationale de Natation (FINA)*, the appellants tried to arbitrate for their swimwear, before the Court of Arbitration for Sport(CAS).[103]Unsurprisingly, along with their *Tracer B8* suit, the other competitor's polyurethane suits were also banned.[104]

B. MOTORIZED DOPING

Cycling has also been revolutionized by technology to the extent that performances had been improved by 221% in a span of eleven years with the help of new Hi-tech bikes.[105] In addition to the transition from the original metal frames to the carbon fiber ones, the new bikes have Bluetooth integrated GPS systems, electronic gears, power meters, etc.[106] Nonetheless with technology, came the evil of '*motorized doping*'. The jargon came to light in public when a spare bike of *Femke Van den Driessche* at the U23 Cyclo-cross World Championships (2016) was discovered to contain a 'Vivax Assist' motor.[107] Not only did the UCI ban her for six months but also fined her 50,000 Euros.[108] Article 1.3.010 of the '*Clarification guide of the UCI technical regulation*' clearly stated that the bicycle should not be propelled by any electric assistance.[109]Therefore, the motors that powered the bracket axle to move the pedals, were banned.

In order to restrict the application of technology in cycling, the UCI had produced the Lugano Charter which basically aimed to maintain constant efficiency in the bikes.[110] This was done to prevent technology from helping the current day riders in breaking old records. In fact, a British cyclist *Graeme Obree* had developed a

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[101] SW 10.8, FÉDÉRATION INTERNATIONALE DE NOTATION SWIMMING RULES, 2017.

[102] Amaury Leveaux & Aurore Mongel v. FINA, Case No. CAS 2009/A/1917 (July 29, 2009).

[103] Amaury Leveaux & Aurore Mongel v. FINA, Case No. CAS 2009/A/1917 (July 29, 2009).

[104] *Id.*

[105] Jon Bardin, *Is technological doping the strongest force in the Olympics?*, LOS ANGELES TIMES (July 24, 2012), http://articles.latimes.com/2012/jul/24/science/la-sci-sn-is-technological-doping-the-strongest-force-in-the-olympics-20120724.

[106] Nick Legan, *You Can Build A Bionic Cycle*, BBC (July 7, 2016), http://www.bbc.com/autos/story/20160707-you-can-build-a-bionic-bicycle.

[107] Peter Stuart, *Motor doping is happening, and we've tested it,* CYCLIST(Nov. 24, 2017), https://www.cyclist.co.uk/news/542/motor-doping-is-happening-and-weve-tested-it.

[108] *Id.*

[109] Art. 1.3.010, CLARIFICATION GUIDE OF THE UCI TECHNICAL REGULATION, 2014.

[110] Sarah Boseley, *London 2012 Olympics: How athletes use technology to win medals*, THEGUARDIAN (July 4, 2012, 00:03), https://www.theguardian.com/sport/2012/jul/04/london-2012-olympic-games-sport-technology.

cycle made from washing machine parts such that he could generate excess power through his thighs.[111] He even invented a '*superman'* position to aerodynamically support him.[112] Unfortunately for him, the UCI also had banned his two innovations.[113]

C. RUGBY GEAR

In addition to the earlier discussed impact sensors for rugby players, smaller rugby leagues and junior leagues had implemented extra padded helmets for precautionary and preventive measures. A product called the "*Guardian Cap*" was introduced to reduce head impacts up to 33%.[114] It had compartments fitted with extra foam, which dissipated more energy compared to the solid shells.[115] Unfortunately, the caps could not gain validity because of its non-compliance with the 'National Operating Committee on Standards for Athletic Equipment' (NOCSAE). The NOCSAE was of the view that any addition to the helmet that alters the protective system, through extra padding, would change the geometry of the helmet and increase its weight.[116]Fortunately in 2012, the "*Unequal Dome*" which contained a padded skull cap, was introduced. After NOCSAE testing, it was highly recommended by doctors for high risk players who require proactive protection.[117]

D. GOLF AND TECHNOLOGY

With golf and technology, we refer to the high-profile case of professional American golfer, Casey Martin, who suffered from a left leg circular disorder known as Klippel-Trenaunay-Webber syndrome.[118] He was required to move around in a buggy (motorized car) in between his shots. The US Professional Golf Association decided to ban the technology, citing that it gave him an unfair advantage over the other golfers and that it changed the nature of the game.[119] However, the

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[111] PDD, http://www.pddinnovation.com/blog/2012/07/technology-in-sport-competitive-edge-or-unfair-advantage/ (last visited May 2, 2018).

[112] Andi Miah, *Rethinking Enhancement in Sport,* 1093 ANN. N.Y. ACAD. SCI.301, 308 (2006).

[113]*Id.*

[114] Gary Micohes, *More padding the issue of concussions and better helmets*, USA TODAY SPORTS (July 30, 2013, 18:26), https://www.usatoday.com/story/sports/ncaaf/2013/07/30/concussions-college-football-nfl-guardian-caps/2601063/

[115] *Id.*

[116] Vongni Yang, *Guardian Caps reducing head injuries for Pioneers*, VISALIA TIMES DELTA (Oct. 13, 2015, 10:42), https://www.visaliatimesdelta.com/story/sports/high-school/football/2015/10/14/guardian-caps-reducing-head-injuries-pioneers/73912558/.

[117] PR NEWSWIRE, http://www.prnewswire.com/news-releases/unequal-technologies-debuts-the-latest-innovation-in-supplemental-head-padding-201238441.html (last visited Dec. 4, 2018).

[118] Bryce Dyer, *The controversy of sports technology: a systematic review*, 4 SPRINGERPLUS 1, 1 (2015).

[119] Brendan Burkett, Mike McNameeb and Wolfgang Potthastc, *Shifting boundaries in sports technology and disability: equal rights or unfair advantage in the case of Oscar Pistorius?,* 26 DISABILITY & SOCIETY 634, 649 (2011).

Supreme Court of the US overruled the association's decision by stating that the use of the buggy did not alter the nature of the game, as it was not a fundamental part of the sport.[120]

The golf ball itself, has been altered many times down the years. First, it took its transition from the old traditional '*gutta percha*' ball to the rubber one which had more flight.[121] Obviously, the professionals who were skilled with the old ball protested the move to replace the same. Decades later, the Polara golf[122] was introduced whose surface had a dimple pattern. It reduced the ball from being hooked or sliced, hence, benefitting the amateur players. For that very reason it was banned.

E. PROSTHESES FOR PARALYMPIANS

The most unique technology that has embarked upon the field of athletics is the 'prostheses'. The famous Paralympian, *Oscar Pistorius*, used lower limb prostheses made of carbon fiber, during his events. [123] In 2007 the International Association of Athletics Federations (herein "IAAF") Rule 144.2 forbade the usage of any technological device that "*incorporated springs, wheels or any other element*" and which gave an unfair advantage over other competitors.[124] Accordingly, the IAAF conducted tests on Oscar Pistorius and five other able athletes and compared them with the help of an expert. The tests concluded that the prostheses when juxtaposed with normal leg strength, gave a mechanical advantage[125]of 30%, thus yielding a 25% lower oxygen uptake by the athlete bearing the prosthetic technology.[126]Taking this Cologne Report into consideration, the IAAF banned Oscar Pistorius from the Beijing Olympics. Eventually, Oscar appealed to the Court of Arbitration for Sport citing his right to run in the Olympics. Since, the Cologne Report did not analyze the entire race, and there was no solid evidence regarding the advantages of the prosthetic technology, the CAS ruled to allow Oscar Pistorius to take part in the London Olympics, 2012.[127]

In 2015, following the Pistorius case, Paralympic long jump master, Markus Rehm decided to force in a similar judgment for himself. However, IAAF's new rules

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[120] *Id.*

[121] Wray Vamplew, *Playing with the Rules: Influences on the Development of Regulation in Sport* , 24 INT'L J HIST SPORT 843, 855 (2007).

[122] Bryce Dyer, Siamak Noroozi, Philip Sewell, and Sabi Redwood, *The Fair Use of Lower-Limb Running Prostheses: A Delphi Study*, 28 ADAPT PHYS ACTIV Q 16, 17 (2011).

[123] *Id.*

[124] Brendan Burkett, Mike McNameeb and Wolfgang Potthastc, *Shifting boundaries in sports technology and disability: equal rights or unfair advantage in the case of Oscar Pistorius?,* 26 DISABILITY & SOCIETY 634, 644 (2011).

[125] Stuart Miller, *Should prosthetics be allowed in non-amputee events?,*UKSPORTSCI (Nov. 26, 2012), https://uksportsci.wordpress.com/2012/11/26/prosthetics-in-sport/comment-page-1/.

[126] Pistorius v/ IAAF, Case No. CAS 2008/A/1480 (May 16, 2008).

[127] *Id.*

required one to prove that the technology did not give the bearer an unfair advantage. Not only did the prostheses better takeoff efficiency, but the fact he used his prosthetic leg to jump, added to his advantage.[128]

Another technical and legal aspect regarding the prosthetic technology is the controversial double legged amputee. Unilateral amputees were of the view that the double legged amputees were at an advantage because the latter could easily increase the height of their prostheses.[129] On the contrary, tests and researches did not prove that the bilateral amputees were at an advantage. Also, the bilateral amputees were not in contravention of article 3.3.2(b) of the (International Paralympics Committee) IPC's Athletics rulebook i.e. unrealistic enhancement of stride length. This issue is remains unresolved and requires active legal regulation.

F. HYPOXIC ENVIRONMENTS

A much-criticized technology that could be brought within the ambit of sports equipment is the '*Hypoxic Environment'*. It is a performance enhancing and an expert administered technology that aims to reduce athlete effort, through training within difficult environments.[130] The hypoxic artificial environment is an alternative to techniques like altitude training, since the latter leads to side effects such as insomnia, headache, dizziness, hyperventilation, etc.[131]Such environments contain air pressure which corresponds to altitudes ranging from 4000 to 5000 meters, thus, helping to improve the oxygen carrying capacity of the red blood cells within the body.[132]However, despite the pros, this technology is under debate as to whether it should be banned by WADA since it can potentially be seen as another form of 'blood doping'.

WADA's criteria for banning Hypoxic environments were,[133] *First*, it should have the potential to enhance performance; *Second*, it should have potential health risks to athletes, *Third*, it should violate the spirit of sport. In relation to the second criteria, it is a fact that an extensive exposure to hypoxia causes epithelial

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[128] Larry Greenemeier, *Blade Runners: Do High-Tech Prostheses Give Runners an Unfair Advantage?,*SCIENTIFIC AMERICAN (Aug. 5, 2016), https://www.scientificamerican.com/article/blade-runners-do-high-tech-prostheses-give-runners-an-unfair-advantage/.

[129] Garett Ross, *Technology at Paralympics sparks advances and controversy*, PENNSTATE COMMEDIA(Sept. 17, 2016), https://commmedia.psu.edu/special-coverage/story/2016-paralympics-games/technology-at-paralympics-sparks-advances-and-controversy.

[130] Sigmund Loland, *The Ethics Of Performance- Enhancing Technology In Sport*, 36 J PHIL SPORT 152, 159 (2009).

[131] *Id.*

[132] Giuseppe Lippi, Massimo Franchini, and Gian Cesare Guidi, *Prohibition of artificial hypoxic environments in sports: health risks rather than ethics*, 32 APPL. PHYSIOL. NUTR. METAB. 1206, 1206 (2007).

[133] *Id.*

injury, hence, culminating in thrombosis.[134] Therefore, it boils down to the last criteria, as to whether this technology is an ethical one. Can the argument, that "*sport should be based on virtuous perfection of natural talents*", be an important one?[135] Initially, the WADA Ethical Issues Review Panel of 2006 endorsed the same opinion on the ethical issue of the matter. But after receiving heavy criticism, the inquiry declined the notion to ban the hypoxic chambers.[136]

After a brief analysis, there were mainly three reasons why there was no violation of the third criteria vis a vis the WADA code. *First*, if sport was only to be based on natural talent, then artificial heat chambers and weight training facilities would simultaneously be banned. Removal of artificial aids would not only deter the progress of Sport but also act as a detriment to Sports.[137]*Second*, the Hypoxic machine does not level out natural, inborn or genetic differences between the competitors.[138]*Third*, the spirit of sport does not signify complete or universal leveling of athletes' circumstances.[139] If that were the case, then athletes living on sea level could file for an injustice. Conclusively, Hypoxic environments are merely Human Enhancement Technologies, and not engineered sporting devices.

CONCLUSION

It is true that technology has gathered pace with time and has added new dimensions to sports. Despite the typical cynicism towards technology, there is no doubt that it would be beneficial to the sports industry. For example, the National Hockey league (NHL) is planning to implement smart pucks in order to produce live quantified data for the coaches or even sports bettors.[140] Similarly, a technology based company *'Digilens'* had recently unveiled *AugmentedReality Helmets* for bikers to receive real time data and route maps in their field of view.[141] But then again the scepticism lies in technologies, such as the one recently introduced by the Australian Sports Anti-Doping Authority.[142] They were licensed

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[134] *Id.*

[135] David James, *The Ethics of Using Engineering to Enhance Athletic Performance*, 2 PROCEDIA ENGINEERING 3405, 3407 (2010).

[136] VERNER MØLLER, THE ETHICS OF DOPING AND ANTI-DOPING: REDEEMING THE SOUL OF SPORT? 108 (2010).

[137] M. Spriggs*, Hypoxic air machines: performance enhancement through effective training—or cheating?,* 31 J MED ETHICS 112, 112 (2005).

[138] T Tannsjo, *Hypoxic air machines: Commentary*, 31 J MED ETHICS 113, 113 (2005).

[139] Andi Miah, *Rethinking Enhancement in Sport,* 1093 ANN. N.Y. ACAD. SCI.301, 315 (2006).

[140] Jen Booton, *NHL Smart Puck Will Bring Big Data to the Ice*, SPORTTECHIE (May 22, 2018), https://www.sporttechie.com/nhl-smart-puck-will-track-200-times-per-second/.

[141] Jen Booton, *Digilens Unveils New Augmented Reality Helmet for Bikers*, SPORTTECHIE (May 23, 2018), https://www.sporttechie.com/digilens-unveils-new-augmented-reality-helmet-for-cyclists/.

[142] Jen Booton, *Australian Sports Anti-Doping Authority Can Hack Athlete Phones*, SPORTTECHIE (May 23, 2018), https://www.sporttechie.com/asada-australian-sports-anti-doping-authority-can-hack-athlete-phones/.

with a Universal Forensic Extraction Device (UFED) in order to hack the phones of suspected doping athletes, bye-passing patterns, passwords or PIN locks.

There certainly exists a definite phase lag between such growing technologies and its governing legislations. But, legislations such as the GDPR provide us with a good insight on tackling issues of data breach. However, the author is also of the opinion that sports data must be well addressed by a more specific code, like WADA's ISPPPI. Sports data such as personal injury details or quantified statistics of a sportsman's ability which is processed for the generation of new data differs from other personal data. Further, the ownership of this new data is not addressed in those broader legislations that dictate general data protection. Hence, the need of sport-specific data protection legislations could be significant.

INTRICACIES IN TAKING JUDICIAL NOTICE OF SCIENTIFIC FACTS

Dr. Dinkar V.R.*

The doctrine of judicial notice allows the adjudication of facts without formal evidentiary requirements. If a fact is judicially noticed it is presumed to be conclusive, which means the fact need not to be proved. The courts often take notice of a fact that is familiar and notorious. However, there are intricacies in deciding whether a particular fact is open to judicial notice since there are certain facts which concerning science, the personal knowledge of judges, public record of a court of law etc. Similarly, the history of the doctrine of judicial notice shows that there is confusion regarding the conclusiveness of the fact once judicially noticed by a superior court of law. This article explores the doctrine of judicial notice, in particular its application on scientific facts, and also attempts to resolve some of the confusion connected with its effect on the trial of facts. The article also argues that it is not wise to consider the issues surrounding the application and effect of the doctrine of judicial notice in a perplexed manner and argues that there is no need to create a rule of law in considering judicially noticed facts as absolute proof; and instead reserve it for the application of judicial discretion whenever necessary, subjecting it to the review mechanism of the appellate courts.

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INTRODUCTION

It is the fundamental principle of the law of evidence that all facts that come before the court of law should be subjected to the trial process. Two purposes are achieved through the compliance of this principle: the elicitation of truth in it and giving opportunity to the opposite side to verify it through cross examination. However, there are situations in which court may avoid the evaluation of facts before considering it as proved. The facts 'familiar to the parties' and 'notorious' need not be proved formally as in normal cases. Thayer expresses these facts as facts 'known already' and 'common to all cases'.[1] This has been historically established through the maxim manifesta non indigent probatione (which is known need not be proved).[2] The law is giving discretion to the fact-finder for considering certain facts as granted in order to avoid the wastage of time due to formal mode of fact determination. Stephen in his seminal work 'A Digest of the Law of Evidence' has considered the doctrine of judicial notice under the chapter 'Facts Proved Otherwise than by Evidence'.[3] The inclusion of the topic 'judicial notice' under this chapter itself makes it clear that the jurists intended judicially noticed facts to be considered as 'proved' without requiring the formal evaluation of evidence. In Article 58, Stephen has stated that it is the duty of the judges to take judicial notice of certain facts.[4] However, as explained by Bentham, the notorious fact should be pronounced as judicially noticed at the instance of either party and after giving the opposite side to deny the notoriety and an opportunity to call for proof.5 The language of the writings of evidence scholars and legislation from some jurisdictions make it clear that the court may take judicial notice of certain facts through the initiative of either party or sua sponte. The purpose of this article is to point out certain quandaries in taking or following judicial notice without proof.

I. JUDICIAL NOTICE – A DOCTRINAL ANALYSIS

The observation of jurists and legislation show us that two types of facts are open to judicial notice. Thayer classifies these facts as the things of which a judicial tribunal 'should take notice' and 'may take notice' without proof.[6] Some facts are expressly provided in the legislation itself, which are closely related to the affairs of state, customary principles, usages in business etc. The court should take notice of such facts without any proof. On the other hand, some others give discretion to

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[1] 2 JAMES B. THAYER, PRELIMINARY TREATISE ON EVIDENCE AT THE COMMON LAW 277 (1898).

[2] *Id. See also* Murl A. Larkin, *Judicial Notice*, 20 HOUS. L. REV. 107 (1983).

[3] JAMES FITZJAMES STEPHEN, A DIGEST OF THE LAW OF EVIDENCE 117 (4th English edn, 1887).

[4] *Id.* at 117.

[5] *See* THAYER, *supra* note 1,at 279 (If there is any dispute about the validity of such facts, court may allow the party to rebut the fact and cross-examine the witness).

[6] See James B. Thayer, 'Judicial Notice and the Law of Evidence HARV. L. REV. 285, 302 (1890).

the judge and he may take notice either suo moto or by the reference of the parties. Stephen drafted in a different way for different jurisdictions; the types of facts of which court should and may take judicial notice. For e.g., in his fourth English edition (combined for England and America), for America, Stephen mentions that the matters of 'general knowledge and experience within the courts' jurisdiction', excluding for English law. Similarly, different from other jurisdictions, in the Indian Evidence Act, 1872, Stephen broadly included all matters of public history, literature and science or art.[7] No matter how, the courts are by and large noticing many scientific facts without formally proving their theoretical or methodological underpinnings. These facts are beyond controversy since their notoriousness has been established beyond any reasonable doubt. Such facts are commonly known to all. As rightly mentioned by Prof. K.C. Davis, judicial notice should be a matter of convenience, subject to requirements of procedural fairness.[8]

II. THE RULES SANCTIONING JUDICIAL NOTICE

In the United States, Rule 201 of the Federal Rules of Evidence exclusively deals with the judicial notice of facts.[9] Rule 201 permits the courts to take judicial notice of a fact only if that fact belongs to the category of adjudicative facts and not legislative facts. It also insists that such facts should not be in any way subject to reasonable dispute. Here the term 'reasonable dispute' qualifies that there should not remain any reasonable doubt about its accuracy. This rule allows the court to notice a fact only if it is 'generally known' within the 'territorial limits of the trial court' or if its accuracy can be readily determined with the help of reliable sources, which cannot reasonably be questioned. The later one is wider than the former since it empowers the court to notice any fact without any limits of territorial application. However, as a rule of practice, the accuracy of the source from which the existence of a fact has been gathered shall also beyond any reasonable doubt. At any time of the proceeding, the court may take judicial notice either *suo moto* or by the request of the party, if he is ready to supply necessary information. As a safeguard mechanism, the Rule states that if a party requests, he is entitled to be heard regarding the propriety and the nature of the fact to be noticed. In criminal cases, the jury may either admit or reject the fact judicially noticed; however, in civil cases it is mandatory that the jury should consider the fact noticed as conclusive.[10]

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[7] *See* The Indian Evidence Act 1872, s. 57.

[8] K.C. DAVIS, 'A SYSTEM OF JUDICIAL NOTICE BASED ON FAIRNESS AND CONVENIENCE', in *Perspectives of Law*, 94 (1964).

[9] Rule 201, United States Federal Rules of Evidence.

[10] *See* Rule 201(f) "In a civil case, the court must instruct the jury to accept the noticed fact as conclusive. In a criminal case, the court must instruct the jury that it may or may not accept the noticed fact as conclusive."

In India, ss.56 and 57 of the Indian Evidence Act, 1872 cover the doctrine of judicial notice. As per section 56, if any fact has been judicially noticed by the court, such fact need not be proved. Section 57 provides in particular about the facts which court shall take judicial notice and in the last part of the section it is stated that the facts specifically mentioned and "…all matters of public history, literature, science or art, the Court may report for its aid to appropriate books or documents of reference". The court shall not consider any persons' request to take judicial notice of a fact unless and until he produces any authority to enable it to do so.[11]

Like the U.S. and India, in England, it is very difficult to trace an analogous provision either in Police and Criminal Evidence Act, 1984 or Civil Evidence Act, 1995. Some juristic writings show that the doctrine of judicial notice in England is mixed with doctrine of common knowledge of the judges.[12] Cross and Tapper classify the taking of judicial notice into two: facts judicially noticed without inquiry and with inquiry. This depends on the notoriousness of the fact.[13]

III. SCIENTIFIC FACTS WHICH ARE OPEN TO JUDICIAL NOTICE

As far as judicial notice of scientific facts are concerned, it has been declared that only the well-established propositions which are less likely to be challenged and firmly established as to have attained the status of scientific law like the laws of thermodynamics are subject to judicial notice.[14] As interpreted and clarified in *Daubert v. Merrell Dow Pharmaceuticals, Inc.,*[15] scientific principles are those hypotheses tested by the scientific method. As rightly stated by some of the prominent evidence scholars like McCormick,[16] the scientific principles which were accepted by the relevant scientific community can be considered while taking judicial notice; however, the judge may use his judicial discretion to explore the scientific principle in question so as to find out its standing against the test of falsification.

IV. PRECEDENTIAL OVERVIEW REGARDING TAKING JUDICIAL NOTICE OF SCIENTIFIC FACTS

The 'absolute certainty' of scientific proposition cannot be insisted for taking judicial notice since it has been generally accepted that the scientific process is not a onetime one and a particular proposition will be continuously observed, retest

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[11] The Indian Evidence Act 1872, s 57.

[12] *See* COLIN TAPPER, CROSS & TAPPER ON EVIDENCE *89* (2007).

[13] *Id.* at 82-83.

[14] *See* Daubert v. Merrell Dow Pharms., Inc.*,* 509 U.S. 579.

[15] *Id.* at 599.

[16] JOHN W. STRONG, MCCORMICK ON EVIDENCE 394 (4th ed. 1992).

and repeat several times despite its widespread acceptance in the community. However, courts always consider the broad scientific propositions like thermodynamics that achieved irrefutable track record. For e.g., in a seminal decision *Daubert v Merrell Dow Pharmaceuticals, Inc*., (hereinafter *Daubert*) United States Supreme Court has observed that 'well-established propositions are less likely to be challenged than those that are novel, and they are more handily defended'.[17] In the United States, courts have showed reluctance in taking judicial notice of a scientific technique whose fundamental premises were not suitable for it. Here it is germane to note that judicial notice is a matter of admissibility of the scientific proposition and not its weight.

In the United States, prior to *Daubert* decision, courts were following the traditional 'general acceptance' test formulated in *Frye v United States*.[18] The basis of the 'general acceptance' test is clear from the following observation made by the court:

> *Just when a scientific principle or discovery crosses the line between the experimental and demonstrable stages is difficult to define. Somewhere in this twilight zone the evidential force of the principle must be recognized, and while courts will go a long way in admitting expert testimony deduced from a well-recognized scientific principle or discovery, the thing from which the deduction is made must be sufficiently established to have gained general acceptance in the particular field in which it belongs.*[19]

Following this, the courts in the United States were admitting the evidence deduced from a scientific principle or discovery, if the thing from which the deduction made was generally accepted in the particular field in which it belongs. The decisions show that courts were taking judicial notice of a particular scientific proposition, if it was accepted by the scientific community in which that proposition belongs. However, the experience shows that courts erred in taking notice of certain scientific propositions. For e.g., in *People v Castro*,[20] the New York Supreme Court while considering the admissibility of DNA identification evidence advanced a three-prong test. Instead of scrutinizing the validity of the basic premise of DNA identification i.e. 'forensic DNA test can identify the individual since every individual except identical twins has a unique pattern of DNA', the court considered the scientific background of DNA and its application in identifying individuals.[21] Even though court has framed its first-prong analysis in a moderately proper manner, it failed to evaluate the ultimate scientific

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[17] 125 L Ed 2d 469, 482 (1993).
[18] 293 F 1013 (DC Cir) (1923).
[19] *Id.* 1014.
[20] 545 NYS 2d, 985 (1989).
[21] *Id.* 988-989.

proposition on which the entire technique is based. Courts first-prong is as follows: 'Is there a theory, which is generally accepted in the scientific community, which supports the conclusion that DNA forensic testing can produce reliable results?' Without evaluating the scientific standing of the basic premise, court took notice that 'there is general scientific acceptance of the theory underlying DNA identification.'[22] It is submitted that one important thing to be kept in mind is that all scientific theories will be based on a scientific premise. Without properly evaluating the scientific premise, it is inadequate in attributing some value to the theory. Similarly, other than a major premise, almost all scientific theories will be based on certain minor premises. Therefore, the court has to check the validity of all minor premises which has the nexus with the major premise.

In the United States, Rule 201 of the Federal Rules of Evidence is very elaborative and if the fact to be judicially noticed is not known within the territorial jurisdiction of the court or if there is any evidence to disprove the scientific proposition, courts were hesitant to take notice. Thus in *Hardy v Johns-Manville Sales Corp*.,[23] court refused to take judicial notice of a scientific proposition that 'asbestos cause's cancer' because it was subject to reasonable dispute.

V. JUDICIAL NOTICE OF THE RELIABILITY OF A TECHNIQUE DISTINGUISHED FROM ITS APPLICATION

No court shall take judicial notice of a technique with regard to its application in the case at hand. It should be based on the evidence that the technique of which the court took notice has been applied properly in the context. The reliability of scientific evidence in a particular case depends on the way in which the evidence was collected, processed, and interpreted by scientific personnel. It also depends on the quality and quantity of the evidence obtained for analysis. To determine these factors, the court has to conduct a pre-trial hearing, especially in determining the chain of custody. However, the court can also take judicial notice with regard to a scientific proposition and the methodology related to it in obtaining the results. In a particular jurisdiction, the court can even take judicial notice of the techniques employed by a scientific institution. However, this should be taken only after considering the validation studies conducted by the concerned

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[22] The pertinent thing to be noted in this case is that court took notice about the validity of the theory was from a law review article stating that 'There is nothing controversial about the theory underlying DNA typing. Indeed, this theory is well accepted that its accuracy is unlikely even to be raised as an issue in hearings so on the admissibility of the new tests * * * the theory has been repeatedly put to the test and has successfully predicted subsequent observations. Thompson and Ford, 'DNA Typing: Acceptance and Weight of the New Genetic Identification Tests' 75 VA. L. REV. 45, 60-61 (1989).

[23] (1982) 681 F2d 334, 347-48 (5th Cir).

institution regarding such techniques. In *United States v Martinez*[24], the court considered the extent of admissibility of DNA evidence in a criminal case. After having a thorough examination of the theoretical background of DNA evidence, the court considered its admissibility and referred to a previous case[25] in which judges judicially noticed the general theory underlying the DNA fingerprinting as well as the techniques employed by the FBI. The court rightly observed that "judicial notice of the reliability of the technique of DNA profiling does not mean that expert testimony concerning DNA profiling is automatically admissible under *Daubert*. A number of courts have required that the trial court further inquire into whether the expert properly performed the techniques involved in creating the DNA profiles." From this observation it is clear that the taking of judicial notice of a scientific technique does not cover the reliability of the application of that technique in the case at hand, but only with regard to the reliability of the scientific proposition and methodology based on that technique.

VI. APPLICATION OF JUDICIAL PRECEDENTS IN TAKING JUDICIAL NOTICE OF A SCIENTIFIC FACT

It is unsafe to take judicial notice of scientific facts which have been judicially noticed by another court. It is an established rule that courts can admit or exclude the evidence without reinventing the wheel every time. Court may require the parties to put on full demonstrations of the validity or invalidity of methods or techniques that have been scrutinized well enough in prior decisions to warrant taking judicial notice of their status. The courts can take judicial notice only if the general scientific propositions had already been noticed in the former cases. However, the court in subsequent cases should be vigilant about the appropriateness in accepting the scientific facts already noticed since there should not be any dissimilarity in the theory or methodology of the scientific facts already noticed from the present one.

In the United States, it is usual practice that the court may consider the judicial precedents before taking judicial notice of a scientific fact. The courts are reluctant to take notice of a scientific fact, if the issue is based on it is appearing for the first time.[26] In the case of Californian case *People v Smith*,[27] the Court of Appeal of California rejected the argument made by the appellant challenging the appropriateness in admitting the scientific evidence based on electrophoretic

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[24] (1993) 3 F3d 1191 (8th Cir).

[25] United States v. Jakobetz, 955 (2nd Cir.) F2d 786, 799-800 (1992).

[26] For e.g., see People v. Eyler, 133 Ill 2d, 173 (1989) (holding that where the admission of testimony on the technique presented an issue of first impression, the technique's reliability is not a proper subject of judicial notice).

[27] People v. Smith, 215 Cal App 3d, 19 (1989).

typing of dried blood tests by the Superior Court. The appellant argued that Superior Court had admitted the scientific evidence on the basis of judicial notice without conducting a full-fledged evaluation under *Kelly-Frye* standard.[28] The Court of Appeal held that the lower court had rightly decided to approve the precedents in other cases regarding the reliability of the electrophoretic typing of dried blood tests since the court had given reasonable opportunity to the appellant for challenging the propriety of the earlier findings.[29] Court of Appeal has quoted with approval of a statement made by the Supreme Court of California in *People v Kelly*:

> *"once a trial court has admitted evidence based upon a new scientific technique, and that decision is affirmed on appeal by a published appellate decision, the precedent so established may control subsequent trials, at least until new evidence is presented reflecting a change in the attitude of the scientific community."*[30]

Through this observation court has clarified the extent of the applicability of judicial precedents in controlling trial courts in taking judicial notice of scientific propositions. The precedents have no force if there is any change or if any new evidence different from the one already accepted by the scientific community has been introduced in the subsequent trial.

In the United States, it is well settled that judicial notice of scientific theories means those which are well established and attained the status of scientific law.[31] *State v. Stoa*[32] is an authority on this particular area. In this case the scientific reliability of the laser device used by the law enforcement wing for detecting the speeding of the car driven by the accused was in issue. After conducting a thorough discussion, court concluded that the lower court was right in determining that the scientific principle and the application of such in the functioning of the radar device was a proper subject for judicial notice. In this case, instead of conducting a full-fledged evidence hearing, court determined the admissibility of the device based on the precedents of the former cases in which the courts admitted the scientific principle and the application of the principle for the particular purpose.

In England, a translucent observation has been made by Lord Bingham, CJ., and Klevan, J., in *Carter v. Eastbourne Borough Council,*[33] regarding the scope and extent of taking judicial notice on the basis of personal knowledge of the judges.

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[28] Kelly-Frye standard means the standard formulated in two cases viz. People v. Kelly, 549 P2d, 1240 and Frye v. United States, 293 (D.C Cir.) F, 1013 (1923) for evaluating scientific evidence.

[29] s*upra* note 21, 25.

[30] People v. Kelly, 549 P2d 1240, 1245 (1976).

[31] Daubert v. Merrell Dow Pharmaceuticals, Inc., 125 L Ed 2d 469, 482 (1993).

[32] State v. Stoa, 145 P 3d, 803 (2006).

[33] Carter v. Eastbourne Borough Council, 2 PLR 60, (2000).

Citing Cross & Tapper on Evidence, court observed that judicial notice of a fact is possible in three situations: (1) judicial notice without inquiry; (2) after inquiry and (3) mandatory one under any of the statutes. In the case of without inquiry, court specifically limited taking notice of facts on the basis of personal knowledge of the judges. Endorsing the observation made by Lord Widgery, CJ., in *Wetherall v Harrison*,[34] court quoted:

> *…it is not improper for a justice who has special knowledge of the circumstances forming the background to a particular case to draw on that special knowledge in interpretation of the evidence which he has heard….it would be quite wrong if the justice went on, as it were, to give evidence to himself in contradiction of that which has been heard in court. He is not there to give evidence to himself, still more he is not there to give evidence to other justices; but that he can employ his basic knowledge in considering, weighing up and assessing the evidence given before the court is I think beyond doubt.*

It is submitted that in *Harrison's* case, court has rightly distinguished using personal knowledge of judges for interpreting the evidence adduced before the court from contributing anything new to the case at hand. The judges are not expected to contribute anything from their personal knowledge as proof of the relevant fact in issue unless they are testifying as witnesses. No fact should be converted into proved one unless it is shown to both sides as a matter of their right to contradict it.

However, in England, it is perceptible through judicial decisions that courts were reluctant to admit expert testimony in certain situations in which the matter is within the 'common knowledge and experience' of the jurors. The finest judicial observation regarding this is visible in a landmark case *R v Turner*,[35] wherein the court had rejected the expert testimony adduced by the defendant's expert to prove that the accused had killed his girlfriend as a result of an explosive outburst of blind range from her side reasoning that it was a commonest of common knowledge. The so called 'common knowledge rule' was originated in this case, which afterwards became judicial precedent in various cases. However, in this case court emphasized that the application of the rule is limited only for forming 'conclusions' based on proven facts. In fact, what court had rejected in *Turners* case was evidence of an expert which could be used for proving the hypothetical situation based on the factual background of the conduct of Turner while he attacked her friend with a hammer. It is submitted that the Court of Appeal had indirectly endorsed the [intuition] of the trial judge in contributing his experience to [prove] or conclude that the appellant had committed the murder with a

[34] Wetherall v. Harrison QB 773 1976).

[35] R v. Turner 1 QB 834 (1975).

distressed mind. It is further submitted that the application of the rule in *Turner* case is very limited since it is the discretion of the trial judge in each case, after considering the factual situation to decide whether to admit or reject the evidence offered by an expert on psychological matters. Therefore, no hard and fast rule can be fixed in such situations.

In England, however, the general law relating to judicial notice is not well settled by any statute. Moreover, the courts are invariably using both judicial notice and common knowledge rule for excluding certain facts from further proof. Here, the line that demarcates judicial notice and common knowledge is very delicate; therefore, it is very difficult to determine precisely under which category a fact would come. However, from the *Turners* case it is clear that 'common knowledge' rule is applicable only for avoiding expert testimony and it is also limited to the 'conclusions' reached by the judge or jury from the proved facts. Therefore, the difference between the conclusions based on proved facts and admitting certain adjudicative facts without formal proof is apparent. But the degree of proof on both types of facts are situated in different poles; judicial notice insists the absolute certainty on the existence or non-existence of a fact and the common knowledge needs the proof beyond reasonable doubt. At this juncture, reaching conclusion from the proved facts obviously results in the determination of an issue before the judges.

VII. JUDICIAL NOTICE ON PUBLIC RECORD OF A COURT OF LAW

It is usual practice that courts may take notice of a record of judicial or quasi-judicial proceedings, if that record is relevant to the case at hand. But, this is subject to the limitation that while doing so the court is expected to notice only about the existence of those records and not the veracity of the arguments or any disputed facts contained in that record. Similarly, it is not legitimate in taking notice of the arguments or averments made by the parties through such records since they might be adduced as self-serving statements of which the truth is not solid. Some of the U.S. decisions clarify the extent of the courts taking notice of such records, which became an essential part of the judicial proceedings. In *Lee v City of Los Angeles*,[36] Ninth Circuit of California had conducted a roving inquiry into the matter while hearing the appeal of Mary Sanders Lee whose action against the defendants for wrongful arrest, extradition and incarceration was dismissed by the district court. One of the main issues in the appeal was whether the district court erred in taking judicial notice of the disputed facts contained in two public documents connected with the appellant's son's waiver of extradition

[36] Lee v. City of Los Angeles, 250 F 3d 668 (2001).

proceedings. Harry Pregerson J., said: "…when a court takes judicial notice of another court's opinion, it may do so not for the truth of the facts recited therein, but for the existence of the opinion, which is not subject to reasonable dispute over its authenticity."[37] The court found error that the district court mistakenly took notice of the validity of the waiver, which would come under the unproved disputed fact.

In a subsequent case, *United States v S. Cal. Edison Co*., U.S. district court for the Eastern district of California denied the request of Southern California Edison Company (SCEC) for taking judicial notice to determine the authenticity of the wording contained in a public document in order to clarify the 'no-fault' strict liability clause contained in it.

VIII. JUDGES PERSONAL KNOWLEDGE AND JUDICIAL NOTICE – EXTENT

The law relating to the application of the principle of judicial notice is very clear in the case of its extent with regard to the personal knowledge of judges. Judges can avoid proof of a fact only if it is either coming under the 'common knowledge' of a reasonable prudent man or if it is not coming under the disputed fact. This rule is applicable to the judges even though they have specialized knowledge on a particular matter. Judges are entitled to take notice only if it is a commonest of common fact and they might be usurping if they are noticing something coming under the special knowledge; whatever knowledge he had acquired on that particular subject.

In *United States v Lewis*,[38] Ninth Circuit had to consider the appropriateness of the judicial notice took by the district judge relying on his personal experience regarding the voluntariness of a confession made by Lewis (respondent) who was under the pressure of anesthesia. Instead of receiving any evidence of her condition, judge came to the conclusion that he could notice this condition with his personal experience and what other people told him about his own behavior after receiving anesthesia.[39] This was vehemently stated by the Ninth Circuit Court as erroneous since his lack of percipiency and supporting evidence for proving his statement.

Thus, the personal knowledge or experience of a judge does not come under the purview of judicial notice because that knowledge or experience is his own and not available to others. If he desires to share such experience or knowledge, he shall

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[37] Id 690. Citing Southern Cross Overseas Agencies, Inc. v. Wah Kwong Shipping Group Ltd., 181 (3rd Cir) F3d 410, 426-27 (1999).

[38] United States v. Lewis, 833 (9th Cir) F2d 1380 (1987).

[39] *Id*. at 1385.

testify as a witness. The judges are not entitled to use the judicial power in taking notice of anything within their knowledge unless it is not coming under the common knowledge. The English and Indian positions are also similar. Thayer has cited a pertinent case in his treatise which clearly demarcates the judges' private knowledge from their judicial knowledge. In *Partridge v Strange*,[40] the plaintiff's attempt to make understand the judges about a statute, which was later found not in existence, for taking judicial notice was rejected stating the reason that it was unknown in *forma judicii*. It is quite worthy to quote the argument made by the plaintiff: "You judges have a private knowledge and a judicial knowledge (*un pryuate science et un iudyciall science*), and of your private knowledge you cannot judge… But where you have a judicial knowledge, there you may, and you may give judgment according to it".

In England, the rule was demonstrated by the QB Division in *Carter v Eastbourne Borough Council*[41], an appeal from the East Sussex Justices, Eastbourne, in which the appellant was convicted for uprooting trees violating the Town and Country Planning Act, 1990. The trial Justices after examining the photographs and hearing the witnesses, from their own personal knowledge came to the conclusion that the trees uprooted by the appellant couldn't attain their girth when uprooted in less than four years. After having a discussion from the Cross & Tapper on Evidence, appellate court rightly distinguished the facts that should be proved by evidence from matters warranting notice and concluded that such evidential matters should not be filled by the personal opinion of the judges.

At this juncture, one prominent query which would arise is that apart from the local knowledge or common knowledge, whether judges could use their 'specialized knowledge' they acquired through experience, qualification or skill for noticing certain things which are unknown to the ordinary common man. The uncertainty was cleared somewhat in an English case *Wetherall v Harrison*,[42] in which Lord Widgery, CJ said very broadly that 'local knowledge' would include 'specialized knowledge'. In this case, one of the judges with his professional capacity as a medical doctor advised his learned companions regarding the genuineness of a statement made by the accused who had suffered from '*needle phobia*' for his failure to supply the specimen for drunken-driving. Appellate court held that judges could use their specialized knowledge for evaluating the credibility of the testimony of witnesses. It is submitted that this case, however, cannot be considered as an authority sanctioning judges to base their specialized knowledge, since the reasoning of the case is limited only to the evaluation of the evidence adduced by the parties and not for supplying anything in addition to that. It

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[40] Plow. 77, 83-84 as cited in Thayer, 283-84.

[41] Carter v. Eastbourne Borough Council, 2 PLR 60 (2000).

[42] Wetherall v. Harrison, QB 773 (1976).

should, however, be noted that if a judge vested with specialized knowledge could supply something which is not within the knowledge of the parties, after giving them an opportunity to rebut in open court would not be violative of any evidentiary rules; if the purpose is for the proper administration of justice. In such situations, it is suggested that it should not be disturbed with any hard and fast rules.

IX. JUDICIALLY NOTICED FACT AND ITS EFFECT

This, of course, is a major issue in the judicial notice jurisprudence; whether the fact once noticed by a judge in a particular case, automatically receives conclusiveness of proof, which is beyond the purview of rebuttal. It is very difficult to answer the question without having a peer into the discussion made by some of the evidence law scholars. In fact, the scholarly writings show that there is a conflict of opinion about the nature of the proof obtained through judicial notice. I would like to patch up the conflict in between the authorities through certain assertions. In support of that, I propose to start my analysis from the Benthamite conception on the topic i.e. in terms of the 'persuasion'. We shall, assign the evidential concepts like judicial notice, presumptions and other similar exempted facts to the judicial conscience for tracing the persuasion of the judicial mind. At the outset, one should recognize that the way in which the persuasion is created in the mind of the judge through evidential facts and presumptive facts are diverse in nature. Evidential facts create persuasion through judicial proof and on the other hand, presumptive facts through inferences. Evidential facts may perhaps, establish a disputable premise to the judicial mind only if it attains the degree of proof beyond any doubt and thereby stimulates their persuasion. At the same time, in the case of presumptive facts, the backup is coming from some other extraneous facts. According to Bentham, the degree of the proof obtained through judicial notice of notorious facts depends on its ability to create that much of persuasion in the judicial mind against the existence or nonexistence of a particular fact in question. For example, taking notice of several convictions against a person for theft would create a strong persuasion in the mind of the judge who is handling a theft case against the same person and useful for declaring him as a habitual offender for the enhancement of punishment.

It is also pertinent to note that it is not quite easy to determine the conclusiveness of a matter judicially noticed, since it depends on the degree of the persuasion of the judicial mind. There are different types of facts that would give different persuasions concerning the deciding matter. For example, the degree which would be created by the fact 'December 25th is Christmas' is obviously different from the fact that 'light is the speediest than any others'. The degree of proof is based on the possibility of disputability of a fact noticed by the judge; however, all these things are coming under the province of the judicial reasoning and discretion. The

conclusiveness of a matter judicially noticed depends on the degree of proof which could be supplied by that matter to the judicial mind in order to reach a firm decision regarding its indisputability. If a matter is disputable, law is granting absolute discretion to the judge to insist for proving with evidence. As a technicality of the law of evidence, the issue is also amenable to be discussed in different perspectives. At this juncture, I think, it is judicious to proceed with the discussion after referring the views of some of the exponents in law of evidence.

The first view, indeed, that could be recalled from my reading is of the eminent evidence law scholar Simon Greenleaf, who gave a misleading explanation while discussing the implications of the doctrine of judicial notice.[43] Greenleaf's observation had three main thrusts; inconsistent with each other's. The logical basis of the observation is very shabby since it is a complete negation of the general rules of evidence as to proof; disturbing of proved facts is unwarranted. The law always prefers the finality of decisions and the first statement is not feasible to it. In fact, he failed to distinguish the opportunity to the opponent to challenge the indisputability before taking notice of a fact and afterwards. There is no restriction imposed so far by the general rule of evidence against the opponent in rebutting the matter of notice. But, once that process is over there is no logic in allowing the opponent for further rebuttal. The application of this logic is same for the other items coming under the same head i.e. 'facts need not be proved'. The finest example is admitted facts. Therefore, it is submitted that the forbiddance of the production of evidence and its relevance in the law of evidence would find importance only if it is occurring before taking notice.

The second statement is shabby and against the judicial process of noticing of facts. It is the basic rule that no judge is permitted to take notice of any fact unless he is fully convinced about the truth and existence of it. The noticing of a fact may be either because of the conviction occurs from his own knowledge or due to the submission from the side of the parties. In both cases, complete discretion is available to the judge in accepting or rejecting the matter as truth. Moreover, there is no question of relieving any party from producing evidence because that is only incidental to the impact of the doctrine of judicial notice. The object of the doctrine is to save time and avoiding unnecessary expenses.

The comprehensive language of Professor Louis L. Hammon,[44] an evidence law scholar gives a complete picture about the conclusiveness effect of the judicially noticed fact. The law cannot allow judges to take notice of any matter in issue as proved one; in the language of Wigmore "merely" that it is taken as true". The word "merely" is not suitable for this situation because it represents minimalism,

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[43] SIMON GREENLEAF, A TREATISE ON THE LAW OF EVIDENCE 18 (1899).

[44] LOUIS L. HAMMON, HAMMON ON EVIDENCE (1907).

which could not be assigned to a matter in which law is exempting a fact from further proof. Similarly, Thayer also used a comparatively similar word "presume" while discussing the conclusiveness of the noticed fact. According to him "taking judicial notice of a fact is merely presuming it, i.e., assuming it until there shall be reason to think otherwise".[45] It is clear that, this rationale is perfectly inconsistent with the purpose sought to be achieved by the doctrine and untenable.

It should be remarked, also, that if a court judicially noticed a particular fact, as an issue of law, if there is any error committed by the lower court, it is reviewable and corrected by the higher judiciary through appeal or any other available mechanism. The taking of judicial notice is not limited to the trial court. In the third part of the observation, Wigmore has admitted that the issue connected with judicial notice is an issue to be settled by the judge and not by the jury; therefore, it can be considered as an issue of law, which is amenable to appeal.

Now, it is time, to turn to the statutory provisions regarding the conclusiveness of the matters noticed by the judge. In the United States, it is perceptible from the first reading of the federal rule 201 that the rule is in favor of the conclusive nature of the matters judicially noticed. Sub rule (f) deals with the topic, which reads: "In a civil case, the court must instruct the jury to accept the noticed fact as conclusive. In a criminal case, the court must instruct the jury that it may or may not accept the noticed fact as conclusive". However, this is subject to sub rule (e), which mandates: "On timely request, a party is entitled to be heard on the propriety of taking judicial notice and the nature of the fact to be noticed. If the court takes judicial notice before notifying a party, the party, on request, is still entitled to be heard". The combined effect of (f) and (e) is that a court can direct the jury regarding the conclusiveness of a matter judicially noticed only after giving an opportunity to the party, if he had made a timely request for the same. Moreover, there is a difference in the nature of the conclusiveness in between civil and criminal cases. In civil matters, once the judge had instructed the jury regarding the conclusiveness, it is absolutely binding on him. On the other hand, in criminal cases, it is only directory and the jury may either accept or reject the fact. The reason for this difference is understandable from the note of committee on the judiciary, which says that in criminal cases such mandatory conclusiveness would violate the Sixth Amendment right to a jury trial.[46]

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[45] 2 JAMES B. THAYER, PRELIMINARY TREATISE ON EVIDENCE AT THE COMMON LAW 309 (1898).

[46] Sixth Amendment right reads: "In all criminal prosecutions, the accused shall enjoy the right to a speedy and public trial, by an impartial jury of the State and district wherein the crime shall have been committed, which district shall have been previously ascertained by law, and to be informed of the nature and cause of the accusation; to be confronted with the witnesses against him; to have compulsory process for obtaining Witnesses in his favor, and to have the assistance of counsel for his defence."

Unlike U.S., in India, the Indian Evidence Act does not specifically say anything about the conclusiveness of the judicially noticed facts. However, from the language of section 56, the judicially noticed facts "need not be proved", which gives the meaning that the provision is only directory and the judges may seek further proof if needed. The term "need not be" signifies that in the ordinary course, there is no need of further proof but if the situation warrants, judges can insist the parties to provide evidence for the matter already noticed.

CONCLUSION

From the aforementioned discussion based on the juristic views and legislation, I submit that it is not wise to consider the issue in a perplexed manner and there is no need to create a rule of law in making judicially noticed facts as absolute proof; instead better to reserve it for the application of judicial discretion whenever it needed, subjecting to the review mechanism of the appellate courts. However, I further submit that cataloguing of different matters coming under the judicial notice is possible to differentiate the matter sought further proof subject to judicial discretion and matter to be declared as conclusive. For e.g., the matters like laws in force for the time being, including rules, notifications published in the official gazette, official designations, offices of state and matters of commonest of common knowledge like important dates like independence day, republic day, Christmas and other Internationally observed important days, universal truths like sun rise and set and other similar things on which there is no mere chance of any dispute or change. On the other hand, scientific inventions and discoveries which are based on humanly created propositions and theories, arts etc., shall always be considered as suspicious.

LEGALITY OF SERVING SUMMONS/NOTICE THROUGH UNCONVENTIONAL MODES OF TRANSMISSION THROUGH ELECTRONIC MEANS

Swrang Varma*

A discussion of the problems the common Indian man faces in his quest for access to justice focuses on the shortage of judges and the resultant mounting caseload as an explanation for the inordinate delay faced in years of litigation. While that is obviously true, the administration of justice as a whole is broken and one can witness the continuous adjournments of time in the lack of the collaboration between and focus by, the executive and judiciary, on finding a way to modernize one such fundamental reason for repeated adjournments during a trial i.e. improper service of summons/notice. As the author shows, our procedural laws struggle to keep up with the situations where the Code is silent and courts have to step in to fashion a procedural remedy in the interests of speedy disposal of justice. The author then takes a brief comparative view of the gradual acceptance and evolution of the integration of electronic methods of service by courts in foreign jurisdictions. Finally, the author undertakes an analysis of the governmental measures in India to enhance the technological capability of courts to streamline the justice administration process and the various safeguards that courts and laws have laid down to ensure that principles of natural justice are observed while delivering summonses on parties. As the author notes, in allowing service by these non-traditional modes, courts have to recognize that service is critical and mode-agnostic, however the service should be meaningful in that it gives proper and reasonable notice.

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INTRODUCTION

The adversarial legal system depends upon two or more parties presenting their full grievances to the court. It originates with one party bringing a claim before a court in the form of allegations of fact, and documents or other evidence in proof thereof, while the other party denies these allegations in full or in part. But it must be denied if she is to successfully obtain a decision in her favour.

The court stands as an intermediary, a sentinel on the qui vive, wisely sifting through reams of claims and evidence. In doing so, the court must only restrict itself to the material before it, and any decision in support of material extraneous to that provided is beyond its powers, exceeding the powers given to it. However, courts also have the mandate of doing complete justice. When the civil rights of two parties are involved, the court ensures due process and the principles of fair trial and natural justice are followed.

Part of the principles of natural justice is the maxim *audi alteram partem* - no one should be condemned unheard. This principle is part of Articles 14 and 21 of the Indian Constitution, providing a bulwark against a man being condemned unheard, or in its positive context, everyone having the right to defend herself by having her day in court.[1] Natural justice requires that a person have effective and meaningful 'notice of hearing', although having notice and knowledge are two different things. Notice is generally constructive, a communication of a statement.[2] In that sense, natural justice is observed when the notice allows the other side to effectively prepare their own case and answer the case of the other side, alongside allowing them enough time to be present for the hearing, whether judicial, quasi-judicial or administrative.[3]

I. SERVICE BY POST: THE PROCEDURAL LAW MECHANISM AND THE PITFALLS

In general terms, service of process is defined as the formal procedure used to give a defendant actual, concrete notice of the pendency of a lawsuit such that: (1) the defendant can appear before the court and oppose the lawsuit on the merits; and (2) it would be fair for the court to rule against the defendant if he or she fails to defend against the lawsuit.

The Code of Civil Procedure, 1908 (hereinafter, "CPC") provides a procedure for the service of summons and notice[4] (in the same process as summons) on the

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[1] Arjan Singh v. Hazara Singh, (1965) 7 P.LR. 643.

[2] Mohinder Singh Gill v. The Chief Election Commissioner, AIR (1978) SC 8511.

[3] TAPASH GAN CHOUDHURY, PENUMBRA OF NATURAL JUSTICE 123 (2016).

[4] Order XLVIII, Rule 2.

defendant or his agent,[5] witnesses,[6] government servants,[7] pleaders,[8] Corporations[9] or Firms,[10] Military/Naval/Airmen[11] in the service of the country, before and during the trial, execution or appeal stage of the suit.[12] The Criminal Procedure Code, 1973 (hereinafter, "CrPC") largely mirrors the CPC to effect the service of process.

Traditionally, service has always been accomplished by post[13] and verified by the defendant signing the acknowledgement due. The efficiency of court proceedings relies on legal papers and court documents reaching both parties on time so that both sides can adequately prepare for and rebut the opposite party's case. In the absence of a smooth process service system, the *presence* of parties (which is fundamental to a fair trial) on the day of the proceeding cannot be ensured, and this opens the trial up to objections from either side on the fairness of the trial, thus increasing the delays and pendency of cases.

In large part, this failure is due to various reasons. The Indian justice system sorely lacks the sheer dedicated manpower and technical capabilities to deal with the burgeoning caseload in proportion to the increasing population. With approximately 2.8 crore cases pending and our lower judiciary short of 5,000 judges, estimates reveal we would need to add 15,000 more judges in coming years.[14] However, the shortage is not simply one of vacancy in the positions of judges, but also the support staff and infrastructure required to reduce the roadblocks in the delivery of justice.

A major hurdle in the service of process regime within the CPC and CrPC is the notion of *personal service*, which requires that a bailiff, policeman, or an appointed process server delivers notice or summons personally on the defendant or his agent, and *confirm* that such delivery has indeed been made. In the case of

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[5] Order III, Rules 3 and 6, and Order V, Rules 12, 13 and 14.

[6] Order XVI, Rule 8.

[7] Order XXVII, Rule 4.

[8] Order III, Rule 5.

[9] Order XXIX, Rule 2.

[10] Order XXX, Rule 3.

[11] Order XXVIII, Rule 3, Order V, Rules 28 and 29.

[12] *See* Rules 19 to 25 of Order VII, Rules 11 and 12 of Order VIII, Order XLI, Rule 38 of the Code framed by the High Court under Section 122 of the Code of Civil Procedure.

[13] Order V, Rule 10, as amended by the High Court, and Rules 20-A, 21, 24 and 25.

[14] "District Courts: 2.81 Crore Cases Pending, 5,000 Judges Short Across India", January 15, 2017, available at: <https://indianexpress.com/article/india/district-courts-2-81-crore-cases-pending-5000-judges-short-across-india-4475043/> (accessed on 28th October, 2018).

personal service, the service and the signature of the defendant or respondent on the back of the process should be proved.

In practical terms, this service stands to have not taken place simply because the defendant tries their best to avoid service, either by ignoring the service at their place of ordinary residence, or quite literally evading process by moving out when they are aware that such service is imminent. This evasion leads to proceedings unnecessarily getting prolonged. Matters get further complicated when the defendant has moved to, or resides in, another country, where Indian courts do not have jurisdiction. The local courts in that country now have to approve such courier service, and on such approval, process is served (Order V, Rule 9(4)). This decentralization is only a piecemeal approach to resolving the delay.

The CPC, in its original state of enactment, gave the concept of substituted service under Order V Rule 20(1),[15] however, as much as it allowed courts to carve their own methods to effect service *as it thinks fit*, there was no specific mention of the advanced, unconventional means of service that were being employed across the world that can ameliorate at least some of the issues of service by registered post.

By virtue of the amendment in 2002, Order V Rule 9(3) recognized the delivery of summons to be made explicitly by fax message or electronic mail service.[16] It could be argued that this regime of process delivery leaves open discretion to the High Courts, principally through Order V Rule 9, to evolve their own understanding of which modes of transmission would be best suited to their courts. Although this discretion is bounded by the plaintiff first exhausting his best endeavours, and satisfying the Court that process cannot be served in any other suitable way[17] on a case-to-case basis, the acceptance by the judiciary, however, of other

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[15] Order V, Rule 20(1) - "*Where the Court is satisfied that there is reason to believe that the defendant is keeping out of the way for the purpose of avoiding service, or that for any other reason the summons cannot be served in the ordinary way, the Court shall order the summons to be served by affixing a copy thereof in some conspicuous place in the Court-house, and also upon some conspicuous part of the house(if any) in which the defendant is known to have last resided or carried on business or personally worked for gain, or in such other manner as the Court thinks fit.*"

[16] Order V, Rule 9(3) - "*The services of summons may be made by delivering or transmitting a copy thereof by registered post acknowledgment due, addressed to the defendant or his agent empowered to accept the service or by speed post or by such courier services as are approved by the High Court or by the Court referred to in sub-rule (1) or by any other means of transmission of documents (including fax message or electronic mail service) provided by the rules made by the High Court:*

Provided that the service of summons under this sub-rule shall be made at the expenses of the plaintiff."

[17] *Punjab Oil Expellers Co. v. Madan Lal Nanda & Sons*, AIR 1967 Delhi 28.

unconventional modes of transmission has paved the way for greater collaboration between the bar, bench, and the public to streamline justice delivery.

II. The Changing Face of Process Service: A Global Perspective

The Information Technology (IT) Revolution has forced a rethink of the way technology impacts the civil justice system and whether technology is in agreement with core procedural values or whether efficiency and justice are incompatible. Considering how long ago the IT boom happened, the justice system in particular common law countries have been slow to computerize the system in a total overhaul. It shouldn't be readily assumed that is only because of a lack of political will, infrastructure or money. The opposition may also be ethical, which can result in reluctance to infuse technology into every stage of the justice system.

While the civil justice system has encountered technologies such as Electronic Filing (e-filing) and e-service of court process, concerns of privacy regarding disclosure of sensitive personal information with e-filing and e-service creating due process concerns with doubts over whether the defendant has been properly apprised of the suit against him, has led to a generally discerning outlook towards going gung-ho over technological means.[18]

Civil litigation relies on private parties pursuing litigation at their own cost. This cost can be unnecessarily high due to structural faults in the administration and managements of cases. This has led to recognition of the need to overhaul the civil litigation system and reduce the costs as much as possible by making it more convenient through the auspices of electronic means.

A digitized system is commonly understood to reduce the costs, delays and backlogs on the entire judicial system. It is a better way of ascertaining the presence of a person through the trail of activity one creates as a user, and thus establish actual notice. As opposed to personal service by physical delivery, electronic means cut out the interference of a human third-party that can be bribed, influenced, overpowered or make mistakes in such service.

On the other hand, in the short term, these systems while being inordinately expensive to put in place(which might not be feasible for every region depending on various factors), also increase the complexity, costs of maintenance and deadlines for operating such systems.[19]

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[18] Janet Walker, and Garry D. Watson, *New Trends in Procedural Law: New Technologies and the Civil Litigation Process*, 31 HASTINGS INTERNATIONAL AND COMPARATIVE LAW REVIEW 251, 258 (2008).

[19] Jeremy Badgery-Parker and J. Harrison, *A Short Way Down the Track: Differential Case Management in the Supreme Court*, 33 Law Society Journal 34 (1995), as cited in *id.* n. 93.

Service of process is one area in the civil litigation process that particularly requires the infusion of technology. Over-reliance on personal service on the defendant is vulnerable to delays and backlogs affecting the progress of the case in circumstances where the defendant cannot be located for means of personal service, has no permanent address, and has not authorized anyone to accept service of process for him or her. At the same time, the increase of the usage of social media and mobile internet globally is making legal systems around the world embrace the widening presence of people on these platforms and utilize them in their bid to make the justice delivery mechanism in tune with changing times.

Social media and instant messaging applications in particular, feature a nifty tool to ensure at least basically, that the delivery of a communication has taken place - the "read receipt" - that allows the sender to be notified of the exact date and time at which the receiver of a communication received such communication. As courts have globally accepted newer modes of communication, from the newspaper to telex, fax, email and finally social media, implicit in this "shift" is that the acceptance is still within the framework of an attempt to serve notice at a place where the defendant can habitually be said to be found and reasonably calculated to have been given notice and opportunity to respond,[20] while complying with statutory requirements.[21]

While most literature and discussion around this topic centers around what the meaning of adequate delivery is, it is argued that it is also important to focus on the true meaning of meaningful "receipt" of such communication. Without proper receipt- in all its concomitant and attached meanings- taking place, it is difficult to argue that social media and other technological means effectively discharge their burden as being better suited to ensure service of notice has taken place.

Service of process has always been a two-way street: while the plaintiff communicates, through his counsel, the notice of the date of hearing and the charges against the defendant, the service requires the acknowledgement of the defendant that the process has been duly served upon him. Such acknowledgement is difficult to glean from a mere "read receipt" and an observable dilution of "proof of delivery" standards takes place wherein the inquiry of courts ends around the time that one can obtain printouts of blue ticks (in the case of Whatsapp) against the concerned message, or a "read receipt" (in the case of Facebook, Twitter, etc.). As was acknowledged in the case of *Liberty Media Holdings, LLC v. Sheng Gan*,[22] ignoring such a nuance "*would be akin to allowing*

[20] Rio Properties, Inc. v. Rio International Interlink, 284 F.3d 1007 (9th Cir. 2002).

[21] *See, e.g.*, Miller v. Balt. City Bd. of School Com'rs, 833 F. Supp. 2d 513, 516 (D. Md. 2011).

[22] Civil Action No. 11–CV– 02754–MSK–KMT, 2012 WL 122862.

plaintiff to slide a complaint and summons under the front door of what appears to be an abandoned residence."

Of course, in comparison to e-mail and fax, social media seems like a more reliable alternative to serving process, not only due to its increasing popularity, but also because of its verification functions. Personal information available can be tallied against the information given on the profile of the person (provided, of course, that the profile itself is legitimate). But, as has been observed,[23] in the case of emails, there is no way to verify the ownership of the email address unless the person behind the email states so himself. In allowing service by these non-traditional modes, Courts recognize that service is critical and mode-agnostic, and it is important that service should take place rather than getting into the semantics of the mode of service utilized.[24]

However, the use of any such platform presupposes a few features that ensure not only proper delivery, receipt and thus, reasonable notice of the pendency of a suit but also an adequate opportunity to present objections.[25] Three important features in particular need to be established: a platform suitable for service of process, verification of the defendant's identity, and consistent frequency of use of such platform by the defendant.[26]

The first of these limitations implies that the platform should allow a person to contact the user through a private message that assures the stability and durability (some assurance that the message will remain intact) expected of a message that can be read, and the platform should allow the attachment of documents. Secondly, the identity of the defendant has to be authenticated. This is done by tallying the information known already about the defendant with the details provided on the page or 'About' section of the user. Thirdly, it has to be shown that the defendant has been active on such platform in a recent period, demonstrating that he has engaged in activity which would have allowed him/her an opportunity on a reasonable use of such platform, to have an opportunity to view the message.

Thus, for all of these reasons of electronic communication creating a record which makes it easier to establish actual notice, inexpensive, faster, more reliable, and

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[23] Keely Knapp, "#serviceofprocess @socialmedia: Accepting Social Media for Service of Process in the 21st Century", Vol. 74:2 La. L. Rev. (2014) Available at: <https://digitalcommons.law.lsu.edu/lalrev/vol74/iss2/11> (Accessed on 28th October, 2018).

[24] Mpafe v. Mpafe, MN No. 27-FA-113452 (Hennepin Cnty. Court, MN 2011).

[25] Philip Morris USA Inc. v. Veles Ltd., No. 06 CV 2988(GBD), 2007 WL 725412 (S.D.N.Y. Mar. 12, 2007).

[26] Knapp, *supra* note 23, at 576.

less vulnerable to external interference, makes service of process by electronic means an irresistible proposition.[27]

III. THE ACCOMMODATION OF UNCONVENTIONAL MODES OF TRANSMISSION THROUGH ELECTRONIC MEANS IN INDIA

Ensuring timely and accurate service furthers the twin objective of reduction of delays and arrears, and the modernization of the justice delivery system through structural changes by increasing the capabilities of its stakeholders. If the judiciary is to occupy a robust role in our society, it needs the backend support and active intervention from the government and collaboration with the public to address the mounting pendency of cases and shortage of judges and court staff.

A promising example of ground-level reform is the case of the UP Police employing a Summon Management System known as "Saakshi"[28] - its primary function being to transmit summons to all parties in a case, and the jurisdictional police station in case it is a criminal case, by way of SMS (Short Message Service), complete with all the details of the case.

This service does away with the need for manpower on the ground to physically deliver process, a task that is mired not only by shortages of such manpower, but also the dynamics of a human interaction between the server and the served, something that does not always take place without glitches. As a result, it ensures the appearance of parties (and witnesses) at the earliest, and that the testimony is accurate and uninfluenced as much as possible by external factors.[29]

Modes of service around the world have been accommodating the changing technologies that allow for a reduction on reliance of manpower and take into account the transforming ways by which people conduct their daily transactions. The judiciary has also recognized[30] the ways in which service by post has been

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[27] Chen, Annie, *Electronic Service of Process: A Practical and Affordable Option*, Cornell Law School J.D. Student Research, available at: <https://scholarship.law.cornell.edu/cgi/viewcontent.cgi?referer=https://www.google.co.in/&httpsredir=1&article=1055&context=lps_papers> (2016), accessed on 28th October, 2018).

[28] Ashutosh Gambhir, *An IAS Officer is Helping Speedy Disposal of Criminal Cases - Shubhra Saxena*, BARANDBENCH.COM, June 16, 2017, <https://barandbench.com/shubhra-saxena-saakshi-summons/> (accessed 28th October, 2018).

[29] Saurabh Sharma, *An IAS Officer Has Found a Solution to India's Pendency Problem - Court Summons Via SMS*, FACTORDAILY.COM, July 3, 2017, <https://factordaily.com/up-saakshi-summons-delivery-sms-shubhra-saxena/> (accessed 28th October, 2018).

[30] National Mission of Justice Delivery and Legal Reforms, *Brief Note on Process Service in Courts*, available at: <http://www.wbja.nic.in/wbja_adm/files/Brief%20note%20on%20process%20service%20in%20Courts%20prepared%20by%20National%20Mission.pdf> (accessed on 28th October, 2018).

abused to delay the trial, either by false endorsements, forging signatures on acknowledgement due or bribing the postman, etc.

Furthermore, there is a lack of accountability and serious monitoring of the working of the court staff and process servers for delay in service. Even in criminal cases, a big reason for delay of trials is the simple indifference of the police towards service of summons for the accused.[31] Of course, this is not to mention the humongous over-dependence on these actors in the system and the disproportionate caseload that falls upon their shoulders alongside other administrative and substantive duties.

In terms of infrastructure as well, there are serious shortcomings in the way the process service mechanism is handled, as the Delhi High Court committee in 2009[32] found:

> *There is a lack of sensitization amongst civil nazirs/nayib nazirs as well as process servers about important role played by the nazarat branch in the overall system of administration of justice.*
>
> *The entries in the registers are not properly maintained in as much as no track is kept of the processes which are not received back even upto the date of hearing fixed in the court.*
>
> *Urgent processes are dealt with in routine manner with no sense of urgency shown towards their execution*
>
> *The system as regards dasti process is easily manipulated.*
>
> *Proper system is not in place as regards the outstation processes and few such processes are received back.*
>
> *The accountability for the Civil Nazirs/Naib Nazirs and also the process servers does not exist.*

Thus, what emerge in sum are three main issues: lack of manpower, sensitization, and adequate equipment with powers that hampers the efficiency of process servers, nazirs, and judicial officers.

In response to this issue, the Conference of Chief Ministers and Chief Justices (CM/CJ Conference) of 2006 had for the first time recognized that there has to be a greater use of Information and Communication Technologies (ICT) for the

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[31] Report of Committee on Reforms of Criminal Justice System, Govt. of India, Ministry of Home Affairs, Report, Volume 1, March 2003.

[32] Report Regarding Service of Summons in Criminal Matters, Committee constituted vide order no. 4860/104094-119/F1 (3)/Gaz./09 dt. 24/11/2009.

speedy disposal of cases. Since then, the Vision Statement and Action Plan 2009[33] was created, which gave the National Arrears Grid for a scientific study of arrears and culminated in the establishment of the National Mission for Justice Delivery and Legal Reforms[34] in the Department of Justice of the Government of India and the National Court Management System[35] in the Supreme Court of India. These steps taken by the Government have emphasized a push towards a greater ICT-enabled court system.

At the moment, the primary modes of transmission of legal papers and court documents on offer are SMS, instant messaging applications such as Whatsapp, social media such as Facebook or Twitter, Electronic Mail (e-mail), fax, etc. The recent trend of cases in Indian courts suggest a general openness towards adopting these means in the service of process and towards giving further legitimacy not yet recognized completely by way of legislation.

Several initiatives by High Courts confirm this openness. The Delhi High Court has created detailed guidelines for service by fax, email and Courier in civil proceedings.[36] Similarly, Bombay High Court Appellate Side Rules, 1960, were amended and new rule 5A was inserted which states that in addition to other modes, urgent orders may be sent or communicated through FAX or E-Mail, wherever such facility is available, at the cost of the party. Other High Courts in Kerala, Madhya Pradesh, and Karnataka have also been tremendously involved in refurbishing their case administration systems.

The Hon'ble Supreme Court of India in *Central Electricity Regulatory Commission v. National Hydroelectric Power Corporation & Ors.*[37] gave a slew of directions encouraging the use of e-mail, complimenting the ordinary modes of service, in commercial matters and where urgent interim reliefs are sought. The Hon'ble Court also noted the large pendency of cases was due in large part to the lack of service of process itself, and in this regard directed the Cabinet Secretariat to provide central e-mail addresses of various Ministries/Departments/Regulatory Authorities along with the names of the nodal officers appointed for the purposes

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[33] Available online at http://doj.gov.in/sites/default/files/Vision-Statement_0.pdf (accessed on 28th October, 2018).

[34] Available online at http://doj.gov.in/national-mission/national-mission-justice-delivery-and-legal-reform (accessed on 28th October 2018).

[35] The NCMS Policy and Action Plan Document is available online at http://supremecourtofindia.nic.in/ncms27092012.pdf (accessed on 28th October 2018).

[36] *See* Delhi Courts Service of Processes by Courier, Fax and Electronic Mail Service (Civil Proceedings) Rules, 2010.

[37] Civil Appeal No. 2010(D.21216/2010).

of service. Service by E-mail has generally been permitted where it cannot be effected through the normal modes of service.[38]

In a Delhi High Court order by Endlaw R.S, J., the plaintiffs were encouraged to use Whatsapp, E-mail and SMS to one of the defendants who could not be served process through traditional modes of service.[39] In the case of Whatsapp, a double-tick on the messages has been understood as *prima facie* evidence of the proper and adequate delivery of summons or notice upon the defendant.[40]

Metropolitan Magistrate (Mahila Court) of the Karkardooma Courts, Delhi, Surbhi Sharma Vats allowed a complainant's counsel to serve summons on the complainant's estranged husband residing in Australia through Whatsapp, SMS and e-mail after her previous attempts to contact him had failed and using the traditional modes of service would unduly prolong the trial (over two weeks).[41] The Complainant woman was directed to file an affidavit stating that the phone numbers on which the summons would be sent via WhatsApp and text message and also the e-mail id belong to her husband and that the service of summons have been effected upon him only.

Justice GS Patel of the Bombay High Court lucidly explained his reasons for accepting the delivery of a notice in an execution application through Whatsapp messenger, under Order XXI Rule 22 of the CPC. He took into account the fact that the icon indicators, i.e. the single and double ticks, show that "*not only was the message and its attachment delivered to the Respondent's number, but that both were opened*."[42] He also stressed on the need for the Court to move on from antiquated means of communication and embrace the new technology that was available. As soon as these indicators flash, the defendants are duly notified in the eyes of the court.[43]

IV. CONCERNS WITH EMERGING MODES

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[38] *See also* Indian Bank Association & Ors v. Union Of India & Anr., (2014) 5 SCC 590; KSL and Industries Ltd., v. Mannalal Khandelwal and the State of Maharashtra, (Criminal Writ Petition No. 1228 of 2004).

[39] Tata Sons Limited & Ors v. John Doe(s) & Ors., CS(COMM) 1601/2016.

[40] Akanksha Jain, "'Double Tick' On WhatsApp Prima Facie Shows Summons Have Been Delivered", May 4, 2018, available at: <https://www.livelaw.in/double-tick-on-whatsapp-prima-facie-shows-summons-have-been-delivered-read-order/> (Accessed on 28th October, 2018).

[41] Akanksha Jain, *Delhi Court Allows Service of Summons Through Whatsapp, SMS, E-mail in Domestic Violence Case*, March 23, 2018, available at: <https://www.livelaw.in/delhi-court-allows-woman-serve-summons-estranged-husband-australia-whatsapp-sms-e-mail-read-order/> (Accessed on 28th October, 2018).

[42] SBI Cards & Payments Services Pvt. Ltd. v. Rohidas Jadhav, Notice No. 1148 of 2015 in Execution Application No. 1196 of 2015.

[43] Kross Television India Pvt. Ltd. v. Vikhyat Chitra Production, 2017 SCC OnLine Bom 1433.

This increasing acceptance of alternative technologies also needs to take into account the procedural irregularities it can create. The second proviso to Order IX Rule 13 CPC specifically provides that no court shall set aside a decree passed ex parte merely on the ground that there has been an irregularity of service of summons, if it is satisfied that the defendant had notice of the date of hearing and had sufficient time to appear and answer the plaintiff's claim.[44]

This provision raises due process concerns due to the exclusionary nature of *ex-parte* hearings. Granted, a defendant should not receive the benefit of dilatory tactics, however the difficulty of establishing such intention to delay proceedings becomes much more difficult when technologies such as these are used. Given that "*personal jurisdiction is the bedrock of due process*", proper service needs to be conducted, which can only happen if the defendant has adequate notice of the process against him.[45]

Although traditional modes of service by courier, speed post or registered post A.D were not without their problems, the new electronic means are not a panacea. They come with their own issues of verification and adduction of electronic summons. A Panglossian outlook towards technology results in a blanket acceptance of the procedural rights it can trample over, especially since their acceptance is primarily driven by members of the Bench who may or may not be sensitized about the pitfalls with the usage of such technology.

The biggest problem with unconventional modes of electronic transmission that still remains is that of the authentication of proper service. In the relay of a message, which can consist of text, documents, or both, there can arise complications in the proper delivery of such content. In accordance with Order V Rule 17, the "confirmation of delivery" ends the responsibility of the sender at the moment the sender proves they took all reasonable steps to ensure delivery of summons. However, what is forgotten is the need to ensure that the content of the transmission was actually properly received, displayed and understood by the defendant. This gap is due to the asymmetric technological capabilities that people possess.

For example, in relaying court documents by way of SMS, the PDF documents would have to be sent through a Multimedia Messaging Services (MMS) due to the (ordinarily) large size of the file. This would imply that all people have the facility of their text messaging service allowing attachment of documents through text messages, or access to MMS services, which is not the case.

Establishing proof of service is also not as simple as recent decisions have made it out to be. The common understanding that the flashing of two blue ticks would

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[44] Satya Khurana v. Suminder Singh Reen, FAO(OS) 492/2013 & CM No. 17344/2013.

[45] McRae v. White, 269 App. 455, 604 S.E.2d 291 (2004).

imply the delivery of the message can turn out to be a dangerous proposition on either side in the case of a legal matter as it is not *ipso facto* proof of delivery *and* receipt. One needs to account for lag, but apart from that, Whatsapp has a feature that also allows users to switch off the function that displays blue ticks to the person sending the message. This makes it difficult to verify the proper delivery of messages being sent with certainty.

When it comes to producing the printout of such Whatsapp messages in a Court of law as admissible evidence, the implications of the same need to be evaluated. The Indian Evidence Act, 1872 allows the consideration of electronic documents by a Court, provided it contains a 'digital signature', or in common terms, a '65B certificate', owing to Section 65B of the Evidence Act,[46] in order to be allowed as admissible evidence.

A Section 65B certificate became mandatory after the Supreme Court's ruling in *PV Anwar v. PK Basheer*[47] which stated that a Section 65B certificate would be mandatory when the contents of an electronic document are to be admitted in a Court. A 65B certificate is a necessary concomitant to disputing the genuineness and veracity of the Electronic Document/Record because this certificate's function is to certify electronic evidence produced by a party other than the owner of the content. It is also a more certain guarantee of the identity of the party producing it in evidence, as a digital signature is essentially a combination of a representation of the person signing an electronic document and the content of the electronic document.

When this document, which is viewed by a party other than the owner of the content, is relied upon in a court of law as evidence, it becomes even more relevant. Forgery of such a Certificate would also entitle courts to punish such defaulters under provisions regards perjury and giving false evidence to the court under the Indian Penal Code, 1860. However, in order to make this possible on a large scale, courts will have to create a Standard format for assigning such digital signatures to every summons, which is not without its difficulties due to the nature of the process of authenticating an Electronic Record.[48] Additionally, court staff would

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[46] 65B. Admissibility of electronic records.—
"(1) *Notwithstanding anything contained in this Act, any information contained in an electronic record which is printed on a paper, stored, recorded or copied in optical or magnetic media produced by a computer (hereinafter referred to as the computer output) shall be deemed to be also a document, if the conditions mentioned in this section are satisfied in relation to the information and computer in question and shall be admissible in any proceedings, without further proof or production of the original, as evidence of any contents of the original or of any fact stated therein of which direct evidence would be admissible.*"

[47] Supreme Court of India Appeal No 4228 of 2012.

[48] Vijayshankar Na, "Section 65B Certificate is like the Digital Signature", September 19, 2017, available at: <https://www.naavi.org/wp/section-65b-certificate-is-like-the-digital-signature/> (Accessed on 28th October, 2018).

also have to be sensitized and trained by qualified professionals in carrying out such a major task.[49]

Interestingly, none of the above decisions quoted insisted on the requirement of a 65B certificate, which begs the question of whether the statutory requirement of a digital signature can be flouted at the altar of technological advancement. The author argues that without a digital signature, such documents should be considered 'unsigned'[50] and thus, not proper service. Courts have to ensure due process is followed, and in their zeal to promote alternative technological means, should not create law where there is none, even taking into account the discretionary powers of higher courts, if any.

Globally, courts have refused to look at these concerns with skepticism, and employed safeguards to guard against due process violations. In *Baidoo v. Blood-Dzraku*,[51] where the New York Supreme Court allowed summons upon the defendant to be served via Facebook on a condition that service by traditional modes would "prove impracticable", the Court framed the central question as such:

"[t]he central question is whether the method by which plaintiff seeks to serve defendant comports with the fundamentals of due process by being reasonably calculated to provide defendant with notice of the divorce."[52]

For the Court in question, the best method of service boiled down to the mode that had the best chances of letting the defendant *know that he was being sued.* Although Facebook was a new and non-traditional mode of service, it stood the best chance of comporting with the due process standard set in law, and achieving the objective of service which is actual delivery of summons to the defendant. Additionally, it directed the plaintiff's counsel to log-in to plaintiff's Facebook account, identify himself, and provide the summons on a weekly basis for a defined frequency. Plaintiff and her counsel were also ordered to text message and call defendant to inform him that the summons for divorce was served via Facebook.

The reasons for this acceptance, largely without significant opposition, seems to be the proliferation of mobile internet and social media usage, even amongst developing countries such as India, with statistics putting the figure at upwards

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[49] Anamika Kundu, *Examining the Legality and Limitations of Serving Summons via Text Messaging*, September 14, 2018, available at: <https://lawandotherthings.com/2018/09/examining-the-legality-and-limitations-of-serving-summons-via-text-messaging/> (Accessed on 28th October, 2018).

[50] Vijayshankar Na, *Notice Through Whatsapp...Mr. Khemka's Order*, April 8, 2018, available at: <https://www.naavi.org/wp/notice-whatsapp-mr-khemkas-order/> (Accessed on 28th October, 2018).

[51] 48 Misc. 3d 309, 311 (Sup. Ct., N.Y. Co. 2015).

[52] *Id.* at 314.

of 478 million by June, 2018.[53] Social media also makes it easy to track the activity of users and thus, whether a communication is being ignored or not.

CONCLUSION

While India keeps pace with its obligations to be perceived as a judicial system in lockstep with changes in modern society, the eternal principles of due process need to be kept in mind. Technology, while providing an easy and convenient go-bye in hard procedural questions, also tides over a lot of concerns over the civil rights of either side in an adversarial system. Courts need to bring in an active, concerted, yet mindful push of technology so that the change does not rock the system, but slowly builds a base of infrastructure and sensitized manpower that can effectively allow this technology to flourish in the daily management of cases.

[53] Mobile Internet Users in India Seen at 478 Million by June, March 29, 2018, available at: <https://www.thehindubusinessline.com/info-tech/mobile-internet-users-in-india-seen-at-478-million-by-june/article23383790.ece> (Accessed on 28th October, 2018).

THE RATIO WHICH WAS HIDDEN IN PLAIN SIGHT: DETERMINING INDUS MOBILE'S TRUE IMPORT

Utkarsh Srivastava*

In the post-*BALCO* era, numerous judgments dealing with domestic arbitrations have been rendered by the various High Courts and the Supreme Court in India, but none of them has had the kind of far-reaching effects as the judgment in *Indus Mobile* has. On the first view, *Indus Mobile* appears to fall foul of the much-debated Paragraph 96 of *BALCO,* which grants supervisory jurisdiction over the arbitral proceedings to the court at the designated 'seat', but the position of law is not that straightforward. The present note looks at how the High Courts of various states across India have misunderstood *Indus Mobile* and finally attempts to arrive at the correct understanding of the judgment, by referring to the recent but rare High Court decisions which buck the trend and present a more acceptable understanding of *Indus Mobile.* The focus would also be on highlighting the reasons for the confusion which has arisen out of the *Indus Mobile* judgment, and the role of the Supreme Court in bringing about much-needed clarity on the subject.

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INTRODUCTION

The *Bharat Aluminium Co. v. Kaiser Aluminium Technical Services* ["*BALCO*"][1] judgment, delivered by a Constitution Bench of the Indian Supreme Court, was undoubtedly a watershed moment in the country's developing arbitral jurisprudence. The judgment performed the monumental job of clarifying the law relating to the concept of 'seat' in foreign seated arbitrations. Notably, in Paragraph 96 of *BALCO,* the Supreme Court also made certain controversial observations in relation to domestic arbitrations. The relevant part of the said paragraph is reproduced below:

> *96. [I]n our view, the legislature has intentionally given jurisdiction to two courts i.e. the court which would have jurisdiction where the cause of action is located and the courts where the arbitration takes place. This was necessary as on many occasions the agreement may provide for a seat of arbitration at a place which would be neutral to both the parties. Therefore, the courts where the arbitration takes place would be required to exercise supervisory control over the arbitral process. For example, if the arbitration is held in Delhi, where neither of the parties are from Delhi, (Delhi having been chosen as a neutral place as between a party from Mumbai and the other from Kolkata) and the tribunal sitting in Delhi passes an interim order Under Section 17 of the Arbitration Act, 1996, the appeal against such an interim order Under Section 37 must lie to the courts of Delhi being the courts having supervisory jurisdiction over the arbitration proceedings and the tribunal. This would be irrespective of the fact that the obligations to be performed under the contract were to be performed either at Mumbai or at Kolkata, and only arbitration is to take place in Delhi. In such circumstances, both the courts would have jurisdiction i.e. the court within whose jurisdiction the subject matter of the suit is situated and the courts within the jurisdiction of which the dispute resolution i.e. arbitration is located. (Emphasis supplied)*

To put it simply, in the said paragraph, the Supreme Court opined that 'court', as defined under Section 2(1)(e) of the Arbitration and Conciliation Act 1996, was wide enough to cover not only the courts of the place where the 'subject-matter of the suit'/ 'cause of action' lies, but also the courts of the 'seat'. Consequently, courts at both these places were held to have concurrent supervisory jurisdiction over the arbitral proceedings.

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[1] Bharat Aluminium Co. v. Kaiser Aluminium Technical Services, (2012) 9 SCC 552.

The correctness or otherwise of these observations has been the subject-matter of numerous debates in the academic circles,[2] but those debates are not at the core of the discussion here. The discussion will focus upon a Division Bench judgment of the Supreme Court of India in *Indus Mobile v. Datawind Innovations* ["*Indus Mobile*"],[3] which has been the source of immense confusion in the country's arbitral jurisprudence as a result of its ambiguous *ratio decidendi*. The attempt would be to understand what the *Indus Mobile* judgment really says and the manner in which that pans out in the shadow of the law as laid down in the abovementioned Paragraph 96 of *BALCO*.

V. *INDUS MOBILE*: CONTRADICTS *BALCO* OR SIMPLY A CASE OF MISUNDERSTOOD *RATIO*?

In *Indus Mobile,* the Supreme Court, speaking through Justice Nariman, came up with a finding which seemingly contradicts Paragraph 96 of *BALCO*. The following extracts from Paragraph 20 and 21 of *Indus Mobile* are of relevance for the present discussion:

> *20. A conspectus of all the aforesaid provisions shows that the moment the seat is designated, it is akin to an exclusive jurisdiction clause. On the facts of the present case, it is clear that the seat of arbitration is Mumbai and Clause 19 further makes it clear that jurisdiction exclusively vests in the Mumbai courts.*
>
> *[I]n arbitration law however, as has been held above, the moment "seat" is determined, the fact that the seat is at Mumbai would vest Mumbai courts with exclusive jurisdiction for purposes of regulating arbitral proceedings arising out of the agreement between the parties.*
>
> *21. [H]aving regard to the above, it is clear that Mumbai courts alone have jurisdiction to the exclusion of all other courts in the country, as the juridical seat of arbitration is at Mumbai.*
>
> *(Emphasis supplied)*

A plain reading of these two paragraphs, at first blush, suggests that *Indus Mobile* has laid down the law that the court at the 'seat' has exclusive supervisory jurisdiction over the domestic arbitral proceedings. Multiple High Courts across

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[2] SK Dholakia and Aarthi Rajan, *Not Three but Half an Error in BALCO: Bhatia International Rightly Overruled,* 1 SCC (Jour.) J-81, (2013); INDU MALHOTRA, O.P. MALHOTRA ON THE LAW & PRACTICE OF ARBITRATION AND CONCILIATION 158 (3rd ed., 2014); V. Niranjan and Shantanu Naravane, *Bhatia International Rightly Overruled: The Consequences of Three Errors in BALCO,* 9 SCC (Jour.) J-26, (2012).

[3] Indus Mobile v. Datawind Innovations, (2017) 7 SCC 678.

the country, including Allahabad,[4] Bombay,[5] Delhi,[6] Kerala (Division Bench),[7] Madras (Division Bench),[8] Punjab & Haryana,[9] Rajasthan,[10] Uttarakhand[11] have in fact arrived at such a conclusion. Considering themselves to be bound by the observations in *Indus Mobile*, these High Courts concluded that as soon as the 'seat' is determined, the jurisdiction of all other courts of proper/ competent/ natural jurisdiction stands ousted.

With due respect, the High Courts have erred in arriving at such a conclusion for the following reasons.

Firstly, the concerned High Courts have overlooked the fact that Paragraph 96 of *BALCO* grants concurrent supervisory jurisdiction to two courts – courts at the 'seat' as well as the courts where the 'subject-matter of the suit'/ 'cause of action' lies. It is evident that *BALCO* does not treat the 'seat' as having exclusive jurisdiction as the judgment itself discusses the concurrent jurisdiction of two courts at two places.

Since *BALCO* is a decision of a five-Judge Bench, the *Indus Mobile* decision cannot dilute the precedential value of the larger Bench decision of the Supreme Court in *BALCO.* Even assuming that the concerned High Courts were right in their reading of the judgment in *Indus Mobile,* and correctly understood it to have laid down that the 'seat' has exclusive supervisory jurisdiction, the High Courts should not have lost sight of the *BALCO* judgment. The observation in Paragraph 96 of *BALCO* continues to be the effective law of the land, and the reliance on *Indus Mobile,* to the effect of ousting the jurisdiction of all courts apart from the court at the 'seat', is misplaced. The ratio of *Indus Mobile* is required to be read in light of the *BALCO* judgment, and therefore, any inconsistencies with *BALCO* are liable to be ignored.

Secondly, the abovementioned High Courts have failed to get the gist of *Indus Mobile* through a more careful reading. The same has been done by a Division Bench of the Delhi High Court through a well-reasoned judgment in *Antrix*

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[4] Suristh Tiwary v. Purushottam Kumar Chaubey, (2017) 125 ALR 582.

[5] General Instruments Consortium v. Lanco Infratect Limited, Arbitration Application No. 287 of 2018 (Judgment dated 31 July 2017) (Bom. HC).

[6] RITES Ltd. v. Government of NCT of Delhi, 2018 SCC OnLine Del 8227.

[7] K. Sasidharan v. Sundaram Finance, (2018) SCC OnLine Ker 2538.

[8] Karaikal Port v. Marg Limited, 2018 SCC OnLine Mad 2362.

[9] M/s Green Builders v. Ramesh, Arbitration Case No. 33 of 2017 (Judgment dated 7 October 2017) (P&H HC).

[10] Union of India v. SSV Constructions, SB Civil Miscellaneous Appeal No. 806 of 2018 (Judgment dated 13 November 2018) (Raj. HC).

[11] Nagar Palika Parishad v. Ramesth Construction Pvt. Ltd., 2017 (3) UC 2214, Civil Revision No. 35/2017 (Judgment dated 31 May 2017) (Utt. HC).

Corporation Ltd. v. Devas Multimedia ["*Antrix*"].[12] *Antrix* attempted to reconcile *BALCO* and *Indus Mobile* and concluded that the latter does not fall foul of Paragraph 96 of *BALCO,* as it was dealing with a very specific issue (expressly framed in Paragraph 2 of the *Indus Mobile* judgment) - whether an exclusive jurisdiction clause in favour of a pre-determined 'seat' would oust the jurisdiction of all other courts - and therefore, its *ratio* has to be understood in light of the specific facts and circumstances of the matter.[13] The Division Bench placed reliance on the Calcutta High Court's *Hinduja Leyland v. Debdas Routh* ["*Hinduja Leyland*"][14] judgment wherein a similar conclusion had been arrived at.

Let us envisage five possible situations which may arise in arbitration-related proceedings:

Situation A	**Situation B**	**Situation C**	**Situation D**	**Situation E**
Seat = City X Exclusive jurisdiction clause is *also* in favour of City X.	Seat = City X Exclusive jurisdiction clause is in favour of City Y (Y has proper jurisdiction).	Seat = City X Exclusive jurisdiction clause in favour of City Y (Y does not have proper jurisdiction).	Seat = City X No exclusive jurisdiction clause.	No Seat designated Exclusive jurisdiction clause is in favour of City Y (Y has proper jurisdiction).

As per *Antrix,* the process of 'seat' selection merely confers proper jurisdiction on the courts at the 'seat', which remains concurrent to the courts of the 'subject-matter of the suit'/ 'cause of action', and *Indus Mobile* simply lays down that an exclusive jurisdiction clause in favour of the pre-determined 'seat' (already having proper jurisdiction as per Paragraph 96 of *BALCO*) has the effect of ousting the jurisdiction of the other courts having concurrent jurisdiction. Thus, *Indus Mobile* should be regarded as an authority for treating the courts at City X as the courts with exclusive supervisory jurisdiction only in Situation A, as illustrated above. In Situation B, in spite of City X being the designated 'seat', City Y will have the exclusive jurisdiction by virtue of having the exclusive jurisdiction clause in its

[12] Antrix Corporation Ltd. v. Devas Multimedia, 2018 SCC OnLine Del 9338.
[13] *Id.,* at ¶ 56.
[14] Hinduja Leyland v. Debdas Routh, 2017 SCC OnLine Cal 16379.

favour. Similarly, in Situation C and D, City X will merely be a court of proper jurisdiction as the 'seat' does not get exclusive jurisdiction on a stand-alone basis.

In *Emkay Global Financial Services Ltd. v. Girdhar Sondhi,*[15] Justice Nariman had the opportunity of considering his own judgment in *Indus Mobile*. The extracts from the relevant paragraphs of the *Emkay* judgment are as follows:

> *8. The effect of an exclusive jurisdiction clause was dealt with by this Court in several judgments, the most recent of which is the judgment contained in Indus Mobile Distribution (P) Ltd. In this case, the arbitration was to be conducted at Mumbai and was subject to the exclusive jurisdiction of courts of Mumbai only. After referring to the definition of "Court" contained in Section 2(1)(e) of the Act, and Sections 20 and 31(4) of the Act, this Court referred to the judgment of five learned Judges in Balco v. Kaiser Aluminium Technical Services Inc., in which, the concept of juridical seat which has been evolved by the courts in England, has now taken root in our jurisdiction.*
>
> *9. Following this judgment, it is clear that once courts in Mumbai have exclusive jurisdiction thanks to the agreement dated 3-7-2008, read with the National Stock Exchange Bye-laws, it is clear that it is the Mumbai courts and the Mumbai courts alone, before which a Section 34 application can be filed. The arbitration that was conducted at Delhi was only at a convenient venue earmarked by the National Stock Exchange, which is evident on a reading of Bye-law 4(a)(iv) read with sub-clause (xiv) contained in Chapter XI.*
>
> *(Emphasis supplied)*

In *Emkay,* the factual situation was identical to Situation E, as illustrated above. No city had been expressly designated as the 'seat' and the exclusive jurisdiction clause was in favour of Mumbai (City Y from Situation E), which had proper jurisdiction by virtue of being the place where the 'cause of action' had arisen. In this light, the exclusive jurisdiction clause in favour of Mumbai was held to be the decisive factor.

The underlined portions in the above extract, from the Justice Nariman authored *Emkay* judgment, may be considered to indicate that the final decision in *Indus Mobile* hinged on the exclusive jurisdiction clause and its effect on a court having proper jurisdiction, and not on the designation of Mumbai as the 'seat' on a stand-alone basis. The exclusive jurisdiction clause in favour of Mumbai, in the factual scenario of *Indus Mobile,* would have been inconsequential if 'seat' designation was itself enough to grant exclusive jurisdiction to the courts at the 'seat'. Thus,

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[15] Emkay Global Financial Services Ltd. v. Girdhar Sondhi, (2018) 9 SCC 49.

the Supreme Court, and Justice Nariman himself, highlighting the importance of the exclusive jurisdiction clause in *Indus Mobile* might give the supporters of the *Antrix* reasoning something to cheer about.

In September 2018, two separate Division Bench judgments of the Calcutta High Court - *Hirok Chowdhury v. Khagendra Dass*[16] and *Debdas Routh v. Hinduja Leyland*[17] (arising out of an appeal against the *Hinduja Leyland* decision relied upon in *Antrix*) ["*Debdas Routh"*] also recognized that the *ratio* of *Indus Mobile* is being misunderstood.

Debdas Routh went to the extent of saying that, when dealing with domestic arbitrations, Paragraph 96 of *BALCO* is merely *obiter dictum*. Therefore, the said paragraph does not qualify as a binding legal precedent of the Supreme Court under Article 141 of the Constitution of India.[18] If this were to be true, the courts at the 'seat' cannot qualify as 'court' under Section 2(1)(e) of the Arbitration Act at all, and can never have supervisory jurisdiction over the arbitral proceedings. The selection of the 'seat' would not even confer the courts at that place with proper jurisdiction, as was clarified and concluded in *Antrix.* Resultantly, even a forum selection clause in favour of the courts at the 'seat' would not empower them to exercise exclusive supervisory jurisdiction over the arbitration, as such a clause can only be effective when made in favour of a court having proper/ natural jurisdiction in the first place (See *Hakam Singh v. M/s Gammon*[19] and *ABC Laminart v. AP Agencies*[20]). Thus, in the scenarios discussed above, City X would not have exclusive supervisory jurisdiction even in Situation A. The very foundation of the *Indus Mobile* judgment would be left on shaky ground.

However, it is argued that *Debdas Routh* goes too far. Without entering the debate regarding the correctness of *BALCO's* Paragraph 96, it would be safe to say that, as of today, it cannot be treated as mere *obiter* as it has received widespread acceptance from not only the High Courts across the country but also by the Supreme Court in *Indus Mobile* itself. Notwithstanding the argument that *Indus Mobile* appears to contradict Paragraph 96 of *BALCO* on a plain reading, it is clear that *Indus Mobile* treated the same paragraph to be instructive and binding in nature on the law relating to 'seat' in domestic arbitrations. The concept of 'juridical seat' as explained in *BALCO* has also been affirmed in the recent *Emkay* decision of the Supreme Court, wherein the Supreme Court was again dealing with a domestic arbitration.

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16 Hirok Chowdhary v. Khagendra Dass, AIR 2018 Cal 272.

17 Debdas Routh v. Hinduja Leyland, AIR 2018 Cal 322.

18 *Id.* at ¶ 68.

19 Hakam Singh v. M/s Gammon, (1971) 1 SCC 286.

20 ABC Laminart v. AP Agencies, (1989) 2 SCC 163.

In any case, Paragraph 96 being a legal observation of a Constitution Bench of the Supreme Court would carry considerable weight.[21] In the absence of a contrary Supreme Court pronouncement on the issue, the same can also be argued to be binding on the country's High Courts.[22] Once the attacks on the precedential value of *BALCO's* Paragraph 96 stand repelled, the discussion in Part II [A] above squarely applies, and the High Courts cannot simply overlook the observations made in Paragraph 96 of *BALCO* as *obiter dicta* with no binding force.

VI. BUT THE TREND CONTINUES

Unfortunately, the issue is far from settled. While the Delhi High Court and, to some extent, the Calcutta High Court might have recognized that the *ratio* of the *Indus Mobile* judgment is not what it appears to be, this cannot, by itself, clear the mess of erroneous decisions by the other High Courts across the country. The binding precedential value of the *Antrix* judgment is restricted to the courts falling within the territorial jurisdiction of the Delhi High Court. Similarly, the *Hirok Chowdhury* and *Debdas Routh* judgments also have restricted territorial influence over the courts in the state of West Bengal. The possibility of more judgments which derive erroneous conclusions from *Indus Mobile* being rendered by the courts across the country, including the High Courts, continues to be ripe. This is abundantly clear from the fact that the fallacious reliance on *Indus Mobile* is not restricted to the courts in the states other than Delhi and West Bengal. Multiple Single Judge decisions of the Delhi High Court[23] itself continue to erroneously rely upon *Indus Mobile,* even in the post-*Antrix* period. These decisions, without so much as a reference to, and in clear ignorance of the Division Bench judgment of their own High Court in *Antrix,* have arrived at the conclusion that where the 'seat' of arbitration has been prescribed in the agreement, it attracts exclusive supervisory jurisdiction in domestic arbitrations.

It is unlikely that the various High Courts would be able to arrive at one uniform understanding of *Indus Mobile* read with *BALCO*. The decision in the *Emkay* matter would also not suffice to bring about uniformity as it does not directly deal with the issue of *Indus Mobile's* ratio and its conceivable conflict with *BALCO*. It is definitely not enough to settle the debate and to be conclusive on the issue. In this light, the Supreme Court has a big role to play. The law of arbitration in India

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[21] Director of Settlements, AP & Ors. v. MR Apparao, (2002) 4 SCC 638 : AIR 2002 SC 1598.

[22] Municipal Committee, Amrtisar v. Hazara Singh, (1975) 1 SCC 794 : AIR 1975 SC 1087; Sarwan Singh Lamba v. Union of India, (1995) 4 SCC 546; Oriental Insurance Co. Ltd. v. Meena Variyal, (2007) 5 SCC 428 : AIR 2007 SC 1609.

[23] Cable Corporation of India Limited v. Jay Pee Sports International Ltd. and Ors., Arbitration Petition No. 789 of 2016 (Judgment dated 31 July 2018) (Del. HC); OSA Vendita *v.* Bausch & Lomb India, Arbitration Petition No. 485 of 2018 (Judgment dated 29 November 2018) (Del. HC); Virgo Softech *v.* National Institute of Electronics and Information Technology, Arbitration Petition Nos. 754 of 2018 and 755 of 2018 (Judgment dated 30 November 2018) (Del. HC).

is in desperate need of a judgment from its Apex Court which tackles the issue head-on and brings about clarity regarding the true import of the *Indus Mobile* judgment and the understanding of Paragraph 96 of *BALCO*.

VII. SUPREME COURT: THE SOURCE OF THE MESS AS WELL AS ITS POTENTIAL CLEANER

If one were to point out the most prominent reason for the confusion regarding the *ratio* of *Indus Mobile,* it would be the language and structure of the judgment. *Indus Mobile* extensively quotes Paragraph 96 of *BALCO,* treats it as instructive on the concept of 'seat' and then takes a stance which, on a plain reading, appears to be in the teeth of the very same paragraph. The judgment gives the impression of being internally inconsistent. Only if one were to carry out an *Antrix* type of scrutiny of the judgment, can one resolve the potential conflict between *BALCO* and *Indus Mobile* and conclude that *Indus Mobile* did not intend to lay down the law for which it is being used as a precedent throughout the country.

Indus Mobile, in Paragraphs 12-15, extensively quotes extracts from *Enercon (India) Ltd. v. Enercon GmbH*[24] and various other Supreme Court judgments saying that the 'seat' has exclusive supervisory jurisdiction. It overlooks the fact that those judgments were delivered in the context of foreign seated arbitrations, and were therefore inapplicable to the domestic arbitration under consideration in *Indus Mobile*. The reference to *Enercon* seems to be unnecessary and it only adds to the confusion regarding the judgment. Paragraphs 12-15 are worded in a manner which gives the impression that the Apex Court treats the designation of the 'seat' as analogous to an exclusive jurisdiction clause, with further affirmation coming from the wording of Paragraphs 20 and 21 (most relevant extracts quoted above). It is arguable that it is actually unclear if the Supreme Court was even attempting to answer the question that was framed in Paragraph 2 of the judgment or did it actually intend to lay down the law that 'seat' is akin to an exclusive jurisdiction clause.

Overall, the manner in which *Antrix* interprets the judgment is the right way forward, but the *Indus Mobile* judgment does leave enough scope for the courts across the country to be misguided on to a totally different track. The judgment leaves much to be desired as the *ratio* is vulnerable to misinterpretation. High Court judgments like *Antrix* cannot bring about the required change across the country due to their territorial limitations. Instead, the burden is upon the Supreme Court to step up and to decode the *Indus Mobile* judgment at the first available opportunity, and to thereby clear up the mess of its own making.

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[24] Enercon (India) Ltd. v. Enercon GmbH (2014) 5 SCC 1.

HOW TO GET AWAY WITH MURDER: RAJASTHAN HIGH COURT EQUATING PRE-MENSTRUAL SYNDROME WITH INSANITY

Vivek Krishnani*

Regrettably, the purpose behind admitting the defence of insanity is often overlooked by the courts and even insanity, that falls way short of the standard of *legal insanity* results in the acquittal of the accused. This is precisely what has happened in the judgment[1] by the Rajasthan High Court wherein the court has allowed the accused to misuse the defence under Sec. 84 of Indian Penal Code[2] (hereinafter "IPC") as a tool to avoid the consequences of her wrongful act.

Pre-Menstrual Stress syndrome (hereinafter "PMS"), which has been accepted as a valid defence in this case, is not only incapable of affecting the "cognitive faculties" but also is very common in women. Additionally, the facts and circumstances of the case are far from suggesting lack of knowledge or even intention on part of the accused person. In light of the relaxed standard of proof that the Indian Evidence Act provides in case of defences, this will go on to set a bad precedent for the upcoming cases.

Although criminal jurisprudence, generally, is based on the age old Blackstone's ratio, what is noteworthy is that it often renders justice sterile.[3] Notwithstanding the importance of protecting the innocent, ensuring that the guilty does not escape is an equally important public duty for the observance of which a judge presides.[4] The author opines that the Rajasthan High Court has erred in acquitting the accused person in breach of such duty. Arguments supporting this claim have been made in this comment.

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1 Kumari Chandra v. State of Rajasthan, (2018) 3 R.L.W. 2382 (hereinafter "Kumari Chandra").

2 The Indian Penal Code, 1860, No. 45, Acts of Parliament, 1860 § 84.

3 Sucha Singh & Anr. v.State of Punjab, (2003) 7 S.C.C. 643.

4 State of UP v. Anil Singh, AIR 1988 SC 1998.

INTRODUCTION

International Criminal Jurisprudence acknowledges that there can be no crime, large or small, without an evil mind[5] as the essence of a crime is its *wrongful intent* without which it cannot exist.[6] Accordingly, whenever insanity stands established the accused person is entitled to acquittal by reason of unsoundness of mind[7] as such an accused person entirely lacks knowledge of the act and free will to do it.[8] In this regard, it may be noted that the lack of *mens rea* is the reason behind such acquittal. Unfortunately, the Rajasthan High Court has, *in casu*,[9] failed to give due consideration to this principle underlying the defence of insanity and even insanity that falls way short of *legal insanity* has resulted in acquittal of the accused.

The undisputed facts of the case, in their relevant portion, are as follows. Three children of tender age had been escorted from their school to a well by their aunt, the accused person. The accused, after having pushed them into that well, ran away from the location where it was situated. Out of those three children, two had been dragged out of the well alive by the local people and one had drowned and could not be traced.

The accused, accordingly, had been declared guilty, of the offences under sections 302, 307 and 367 of the IPC, by the trial court. However, the High Court has acquitted her on the ground of "unsoundness of mind". As observed by the Court: '*Not one but three doctors, who treated her on different occasions, have deposed in favour of such plea of insanity set up by the defence.... the accused-appellant has been able to probabilize the defense by standard of preponderance of probabilities.*'[10]

Patently, the Court, while overlooking fairly important facts and principles, has relied only on the opinions of 'three doctors who have treated the accused on different occasions'. Further, as the author will elucidate in the two arguments below, the court has misapplied the aforementioned rule of evidential burden. Consequently, the reasoning underlying this decision is something quite off-putting. The author disapproves of such an approach and presents arguments against the same in this case comment.

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[5] F.B.Sayre, *Mens Rea*, 45 HARV. L. REV.974, 974 (1932).

[6] BISHOP, CRIMINAL LAW 287 (9th ed. 1930).

[7] 11 HARDINGE STANLEY GIFFARD, HALSBURY' S LAWS OF ENGLAND 27-28 (Lord Mackay of Clashfern, 4th ed. 2006).

[8] JAISING P. MODI, MEDICAL JURISPRUDENCE AND TOXICOLOGY 778 (24th ed. 2011).

[9] Kumari Chandra v. State of Rajasthan, (2018) 3 R.L.W. 2382.

[10] *Id.* at ¶ 26.

I. PMS MUST NOT ENTITLE AN ACCUSED TO RAISE A DEFENCE OF UNSOUNDNESS OF MIND

Principally, legal insanity is the rule laid down in *R v.McNaughten*[11] which has been adopted under Sec. 84 which reads as:

> *'To establish a defence on the ground of insanity, it must be clearly proved that, at the time of the committing of the act, the party accused as labouring under such a defect of reason, from disease of the mind, as not to know the nature and quality of the act he was doing; or, if he did know it, that he did not know he was doing what was wrong.'*[12]

Although one can notice a reference of the aforementioned principle in *Kumari Chandra*, the same has not been applied correctly by the judges. An analysis of this principle would go on to exhibit serious flaws in the reasoning employed by the Court.

To avail the benefit of insanity, it needs to be proven that the accused person was incapable of knowing the nature of his act or that what he was doing was wrong or contrary to law.[13] Nothing short of impairment of the "cognitive faculties" of the accused can be considered to mean legal insanity.[14] Undeniably, the act of pushing three children of such tender age into a well is quite strange and gives an indication in favour of insanity. However, legal insanity does not stand established from eccentricity.[15] The fact that she engaged in unusual behaviour does not make a case for insanity as she was not absolutely incapable of understanding the nature of her act.[16] The same is manifested in an understanding of the symptoms of PMS.

A patient suffering from this disorder is often seen acting impulsively and aggressively before her menstrual cycle.[17] The symptoms of such disorder range from depression to violent outbursts.[18] Given these symptoms, the author admits that the act of such a patient is not voluntary and is in fact driven by impulse. However, an act so done would simply fall within the ambit of "automatism" which

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[11] *Id.*

[12] R. v. Mc Naughten, (1843) 8 E.R. 718.(U.K.)

[13] Tola Ram v. Emperor, AIR 1927 Lah. 674.

[14] Bharat Kumar v. State, (2004) 2 W.L.C. 380.

[15] Kesheorao v. State of Maharashtra, 1979 Cr. L.J. 403.

[16] People v. Gilmore, 653 N.E.2d 58, 61 (1995)(U.S.).

[17] AMERICAN PSYCHIATRIC ASSOCIATION, DIAGNOSTIC AND STATISTICAL MANUAL OF MENTAL DISORDERS 200-232 (5th ed. 2013).

[18] *Id.*

does not call for a defence in law[19] for the simple reason that lack of control does not suffice for establishing legal insanity.[20] As highlighted by the Kerala High Court also in *Parapuzha*, every crime is committed under an impulse and uncontrollable impulse is never an excuse for escaping criminal responsibility.[21]

Resultantly, PMS must not entitle an accused person to raise a defence of unsoundness of mind merely upon her failure to use the powers of reasoning that she clearly possessed during the commission of the act.[22]

II. THE *ARGUENDO*

This segment presents an alternate argument. In the author's opinion, even if PMS could legitimately be accepted as a defence, it should not be provided in the instant case. This argument comprises three prongs which are as follows:

i. *FIRST*, MEDICAL HISTORY, IN ITSELF, IS NEVER CONCLUSIVE OF INSANITY

One of the doctors who had treated the accused has observed that "*the symptoms of P.M.S. in the accused were very severe when she visited his house.*"[23] This observation finds support in that of the other two doctors when they state the accused had in two-three instances become "*become aggressive and violent to the extent of reaching the stage of madness.*"[24] Conspicuously, the undertakings of three doctors who have treated the accused from time to time have been in favour of the plea raised by the accused.

Herein, it is significant to note that medical certificates, warranting a mental disorder do not suffice for establishing the defence under Sec. 84 of the IPC. The author places reliance on a judgment of the Apex Court:

> *'every person, who is mentally diseased, is not ipso facto exempted from criminal responsibility. A distinction is to be made between legal insanity and medical insanity. A court is concerned with legal insanity, and not with medical insanity.'*[25]

Additionally, reference may be made to the opinion of Kader J. in *State of Kerala v.Ravi*:

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[19] RATANLAL RANCHORDAS & DHIRAJLAL KESHAVLAL, THE INDIAN PENAL CODE 375 (KT Thomas & MA Rashid, 32nd eds. 2010).

[20] Morgan v. State, 639 So. 2d 6, 12 (1994) (U.S.)..

[21] Parapuzha Thamban Alias Jacob v. State of Kerala, 1989 Cr. L.J. 1372.

[22] JOHN SMITH & BRIAN HOGAN, CRIMINAL LAW 341 (David Ormerod & Karl Laird, 14th ed. 2015).

[23] Kumari Chandra v. State of Rajasthan, (2018) 3 R.L.W. 2382 at ¶ 18.

[24] Kumari Chandra v. State of Rajasthan, (2018) 3 R.L.W. 2382 at ¶ 16.

[25] Hari Singh Gond v. State of MP, (2008) 16 S.C.C. 109.

> *'An accused person may be suffering from some form of insanity in the sense in which the term is used by medical men, but may not be suffering from unsoundness of mind as contemplated under Section 84 IPC.'*[26]

Despite consistent jurisprudence in this regard,[27] the court, in the instant case, has placed heavy reliance on the medical opinion of the "three doctors". In fact that is the *only* evidence which has been used to substantiate the assertion regarding the defence of insanity. The court, however, ought to have been concerned with legal insanity, as against medical insanity.[28]

ii. *SECOND,* CIRCUMSTANCES ANTECEDENT, PRESENT AND SUBSEQUENT DO NOT ESTABLISH UNSOUNDNESS AT THE TIME OF COMMISSION OF THE ACT

Defence of unsoundness can be availed only if the accused was so incapable at the time of doing the act.[29] So to say, the circumstances should show that the accused person was unsound during the commission of the offence and hence could not form the requisite *mens rea.*[30] For this, the way in which the accused behaved immediately before the incident, during the incident, and his subsequent conduct are the factors to be considered.[31] However, no evidence pertaining to such conduct of the accused has been brought up by the accused.

In this regard, the author invites attention of the reader to the "brief facts" as they appear in the judgment.[32] It is noteworthy that the accused ran away from the crime scene after pushing the children into the well, which furthers the argument that the accused was not incapable of knowing that her act was wrong. Accordingly, despite having a medical history of insanity, the court should have convicted the accused because her subsequent conduct proves that the accused was not so incapable.[33]

Nothing else can be said about the antecedent circumstances. It must be noted that previous enmity has been considered by the Courts to be a crucial indication of the pre-meditated nature of the act.[34] And the facts of this case suggest that the act of the accused was pre-meditated in that she was annoyed with the parents of

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[26] State of Kerala v. Ravi, 1978 Cr. L.J. NOC 182.

[27] Sudhakaran v. State of Kerala (2010) 10 S.C.C. 582, Jeevan Rana v. State Of Himachal Pradesh, 2015 Cri. L.J. 4619.

[28] Ghana Gogoi v. State Of Assam, (2013) 5 Gau. L.R. 612.

[29] Atrup *v.* State, 2003 Cr. L.J. 4031.

[30] Surendra Mishra v. State of Jharkhand, (2011) 11 S.C.C. 495.

[31] Ratan lal v. State of Madhya Pradesh, AIR 1971 SC 778.

[32] Kumari Chandra v. State of Rajasthan, (2018) 3 R.L.W. 2382 at ¶ 2.

[33] Jai Lal v. Delhi Administration, A.I.R. 1969 SC 15.

[34] State of Rajasthan v. Shiv Charan, (2013) 8 SCR 336.

the three children.[35] Of equal relevance is the fact that the accused escorted the children to the well from their school which further goes on to show pre-meditation.

The reason underlying the benefit of insanity is the inability of an unsound person to understand the nature of his act. However, the facts aforementioned make it difficult to accept that the accused person became incapable of understanding its nature at the time of its commission and ran away subsequently. Pre-meditated nature of the act refutes the presence of insanity[36], particularly, when viewed in light of the subsequent conduct of the accused. Consequently, the court has erred in granting the defence of insanity, which seems like nothing but a convenient afterthought.

iii. *THIRD*, THE APPLICATION OF SECTION 105 OF THE IEA IN THIS CASE RAISES FUNDAMENTAL QUESTIONS ON THE CRIMINAL JUSTICE SYSTEM

Section 105 governs the burden of proof and standard of proof in cases where insanity is pleaded. What is important to note is that an accused person does not have to prove his case beyond reasonable doubt[37] and it is sufficient if his plea of insanity is established by preponderance of probabilities.[38] The Apex Court has discussed this rule at length in the judgment of *Dahyabhai* which is presently the law of the land:

> *'Even if the accused was not able to establish conclusively that he was insane at the time he committed the offence, the evidence placed before the court by the accused or by the prosecution may raise a reasonable doubt in the mind of the court as regards one or more of the ingredients of the offence, including mens rea of the accused'*[39]

In *Kumari Chandra*, the court has applied the aforementioned rule, which is already convenient for the accused, in a manner that denies justice to the victim. It must not be forgotten that the burden of proving insanity is on the accused. The only evidence in favour of insanity was the medical opinion which already stands rebutted, as discussed already and is not capable of raising a reasonable doubt in the mind of the court on its own. Without having discharged the burden, the accused should not have been acquitted by the High Court.

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[35] Kumari Chandra v. State of Rajasthan, (2018) 3 R.L.W. 2382, at ¶ 9.

[36] R. Ranchordas & D. Keshavlal, *supra* note 16, at 1353.

[37] The Indian Evidence Act, 1872, No. 1, Acts of Parliament, 1872 § 105.

[38] Kusa Majhi v. State, 1985 Cr. L.J. 1460.

[39] Dahyabhai Chhaganbhai Thakkar v. State of Gujarat, AIR 1964 SC 1563.

The rule in *Dahyabhai* concerning standard of proof stems from the age old Blackstone's ratio. Blackstone's idea is that *it is better that 10 guilty persons escape than that one innocent suffer*. The author, while acknowledging its wide acceptance in the international criminal justice system, argues that it often renders justice sterile.[40] When there is too much emphasis on ensuring the acquittal of an innocent, the courts often overlook their responsibility of doing justice by punishing the guilty. With due regard to the importance of protecting a person who is not responsible for the crime, ensuring that the guilty does not escape is an equally important public duty for the observance of which a judge presides.[41] This duty demands the conviction of accused persons like *Kumari Chandra* who get away with heinous crimes because of the "accused-friendly" application of evidentiary rules which already favour the accused.

CONCLUSION

Cumulatively, all the aforementioned arguments exhibit certain legal flaws in this judgment of the Rajasthan High Court which have made it a cakewalk for the accused person to elude conviction.

Additionally, the court has taken a myopic view of this case in that it has failed to consider certain ramifications of its finding. It is not disputed that PMS adversely affects "many women"[42] and even the three doctors, in this case, have warranted the same. If a disorder so *general* exempts criminal wrongdoers from liability for their serious acts, it will lead to unwelcome consequences. This aspect of the disorder, in light of the legal flaws, indicates the problems that the criminal justice system might have to face in the coming years.

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[40] Sucha Singh & Anr. v. State of Punjab, (2003) 7 S.C.C. 643.

[41] State of UP v. Anil Singh, A.I.R. 1988 S.C. 1998.

[42] Marc P. Press, *Premenstrual Stress Syndrome as a Defense in Criminal Cases*, 32 DUKE L.J. 176, 176 (1983).