ROLE OF DESIGN EDUCATION IN FOSTERING VALUES OF SOCIAL RESPONSIBILITY IN DESIGNERS

Sanjeev Bothra

Independent Scholar, India

Professional communication and industrial design have become a forceful, persuasive and omnipresent reality in shaping, serving and significantly changing the society and the environment at local as well as global levels. A professional designer is a significant contributor in creating the 'world by design', and shares the social responsibility of the consequences of the acts of design, with blurring of traditional and rigid boundaries of specialization. This research article examines 'what is' the role of the formal design education programs in fostering values of social responsibility in their students, the future professionals. The primary field study and research for this article was undertaken in India as a part of a doctoral research. Nevertheless, it brings forth insights valuable for multiple locations and parallel contexts. The concluding part of the article takes a propositional and conceptual route to derive 'what ought to be'—as models for future action.

Keywords. Contemporary design education, Wicked problems, Social responsibility, Values, Ethics, Responsible design filters.

More than ever before, in the past few decades, professional communication and industrial design have become a forceful and omnipresent reality of human civilization—shaping, serving and changing the world around us. A significant part of professional communication today is involved in, what Victor Papanek had described in his landmark book *Design for the real world* way back in the 1970s, "persuading people to buy things they don't need, with money they don't have, in order to impress others who don't care" (1985, p. ix). Is contemporary design education and praxis largely oriented towards servicing profit-focused clients
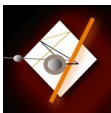
interested in ever-expanding consumer desires? Is this the ultimate role for which design education programs prepare their students? In this article, I examine the larger roles and responsibilities of the designer and their formal education programs.

The field study[1] for this research was conducted in India—one of the world's oldest civilizations with a rich traditional heritage, and among the fastest growing economies of the world today. While the country has seen phenomenal progress on multiple fronts, several basic unresolved issues continue to pose complex challenges—social, economic, political, cultural and ecological—as they do in many developing countries. Thus, although the primary research is India-specific, it brings forth insights valuable for multiple locations and parallel contexts elsewhere.

India has witnessed an exponential increase in the number of design education programs being offered (Figure 1, page 13). With the growing significance of professional communication and design in the overall economy, these have become sought-after areas of specialization and work. Affordable and easier accessibility to technology and knowhow, as well as changing market demands and expectations, have led to the blurring of traditional and rigid boundaries of specialization. Besides formally trained students in professional communication design, students from industrial design and other disciplines, with design thinking skills and with understanding of the process of design, take up or join teams that undertake professional communication work. Therefore, I discuss issues concerning fostering of social responsibility values under the broad umbrella of contemporary design education.

Conventionally, education and praxis of professional communication and design have largely been focused on solving 'tame problems', following the tested paths of linear problem-solving or product-oriented models. "For any given tame problem, an exhaustive formulation can be stated containing all the information the problem-solver needs for understanding and solving the problem" (Rittel & Webber, 1973, p. 161).

Figure 1

Year-wise representation of new design institutions/departments and programs in India (Compiled[6]).
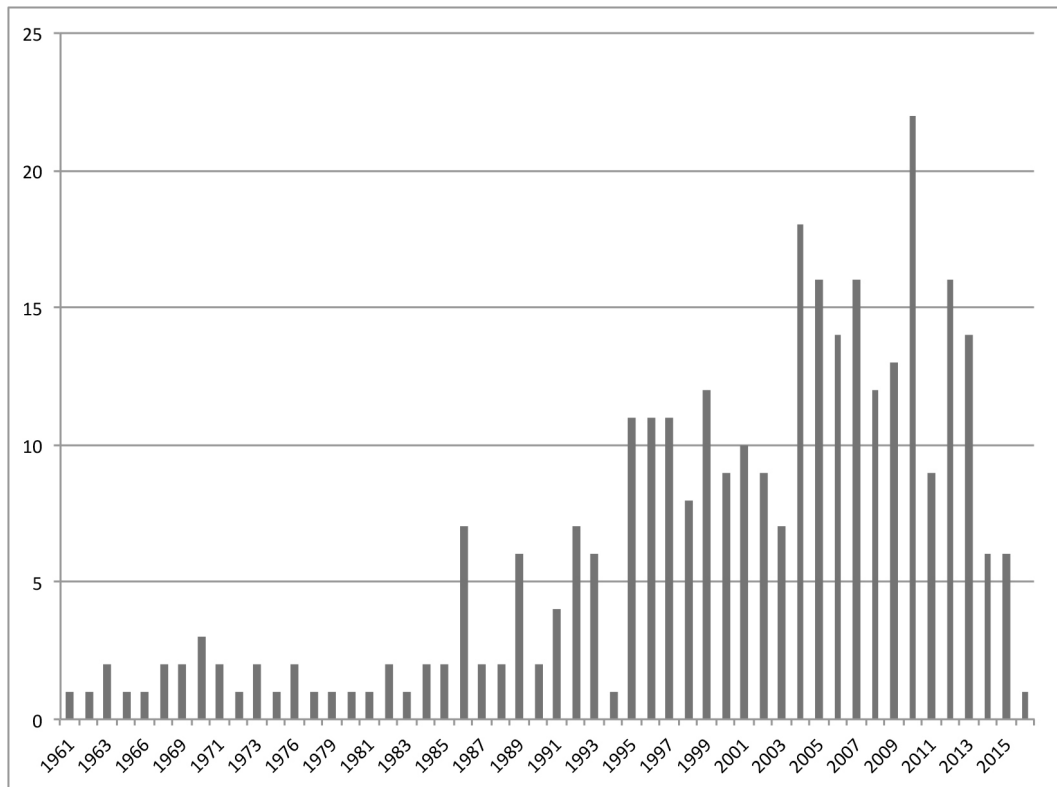
It is not as if such tame problems are simple or easy to solve. However, in this article, I focus on the role of design education in India in preparing their students for the non-linear and less conventional path of addressing social and culturally complex problems and challenges, described as 'wicked problems'. Problems that are "difficult or impossible to solve for as many as four reasons: incomplete or contradictory knowledge, the number of people and opinions involved, the large economic burden, and the interconnected nature of these problems with *other* problems. Poverty is linked with education, nutrition with poverty, the economy with nutrition, and so on" (Kolko, 2012, p. 10).

I have used social responsibility as an ethical and moral obligation of governments, businesses and, most significantly, individuals, towards welfare of the society at large, above and beyond mere legal compliance. Social responsibility, in this sense, cannot stop at reactive action to address the problems of society; it calls for proactive action from all concerned entities as preventive or, at least, mitigative measures.

In context of the contemporary world, I view professional communication, complexly intertwined with other design disciplines, as a significant contributor in creating a 'consumerist world by design'. The creators of these designs share the responsibility of resulting environmental and social consequences of the acts of design as a whole. In this context, there is a need to examine the roles and responsibilities of the designers beyond the client and the consumer, towards the environment, society and the individual self—as a human being. I place the individual designer at the core of any design action as a change agent. Therefore, the values imbibed during professional design education programs are accorded deep significance for my study.

I begin this article by outlining research questions and hypothesis. After an overview of reviewed literature to identify the gaps, I present a brief description of my research methods. Then, I examine the significance of social responsibility and how it is valued in contemporary design education programs in India. I go on to examine 'what is' the role of institutions and the significance of the role of individuals—faculty members and students—in fostering values of social responsibility. Finally, I present 'what ought to be' recommendations for design education programs for socially responsible design.

Central Question

What is the role of contemporary design education programs in India in fostering values of social responsibility in their students, the future professional communicators and designers?

Sub-questions

1. Why is it significant to examine issues of social responsibility of a professional communicator or a designer?

2. How is social responsibility valued in contemporary design schools and their pedagogic framework?

3. What are the pedagogical and practical challenges faced by faculty members and students within design education programs in fostering values of social responsibility?

4. How do personal beliefs and commitment of individual faculty members and students influence their approach to social responsibility?

Hypotheses

1. In India, issues of social responsibility are not a priority for most contemporary design education programs and their pedagogic frameworks. Institutionally, design schools/departments in India do not have a significant role in fostering values of social responsibility in their students, the future designers.

2. In the absence of substantial institutional emphasis on fostering values of social responsibility, the role of individuals—acquires great significance. Some students and faculty members demonstrate socially responsible design thinking and action because of their own personal beliefs and commitment. These individuals play a critical role in fostering values of social responsibility.

Literature Review and Gap Analysis

The literature review examines the social as well as environmental concerns as a part of the social responsibility discussion in relation to design to establish the background and context of this study.

Papanek's book *Design for the real world*, published in 1971 and later translated to 23 languages, is a seminal work advocating social, ecological and

moral responsibilities of designers. Issues of sustainability, recycling and ethical consumption contemplated by Nigel Whiteley (1994) in his book *Design for society* seem to have become more significant now than they were raised by him more than 20 years ago.

The 1960s and 1970s were a period when concerns regarding anthropogenic environmental issues and their social consequences started gaining wider attention. Rachel Carson's (1962) *Silent spring*, was instrumental in setting forth the environmental movement which led to serious questioning laws affecting air, land and water. Barbara Ward (1966), an early advocate of sustainable development, in her book *Spaceship earth*, emphasized a connection between wealth distribution and the conservation of planetary resources.

The World Economic Forum released a report titled *Global risks 2013* developed from an annual survey of over 1,000 experts from industry, government, academia and civil society who were asked to review a landscape of 50 global risks (2013, p. 10). The respondents rated rising greenhouse gas emissions as one of the three most likely overall global risks. Severe income disparity and chronic fiscal imbalances are among the first two. Thus, the report highlighted the close link between social and environmental ethics.

Lynn White, Jr., in "The Historical Roots of Our Ecological Crisis" in the March 1967 issue of *Science*, raised a significant argument that specific religious philosophies were at the root of the kind of industrialization and colonization that had taken place leading to the ecological challenges that we face today. White points out: "Both modern technology and modern science are *Occidental*" (1967, p. 1204). I add modern design with its strong Western influence to this list, as the "single-style modernist regime of contemporary design schools" as argued by Jan Michl (2010) in his article titled 'A case against the modernist regime in design education'[2].

Alain Findeli (2001), in his article "Rethinking Design Education for the 21st Century: Theoretical, Methodological, and Ethical Discussion" refers to the "central role of economic factor" as an "extremely narrow philosophical anthropology[3]" and describes it as "outdated implicit epistemology of design practice and intelligence, inherited from the nineteenth century." He is of the

opinion that: "it is much too easy to condemn them today, as if they could have been avoided. However, there is no reason to resign ourselves to them any longer." Findeli stresses the need "to lay down new foundations for design education and research within a nonmaterialistic, nonpositivistic, and nonagnosticist, non-dualistic worldview" (2001, p. 6). Harold Nelson and Erik Stolterman (2003), in their book *The design way: Intentional change in an unpredictable world,* describe design as 'an act of world creation' and a designer as 'world creator' (2003, p. 239).

Threats from global warming, political uncertainties, terrorism, wars, nuclear weapons, poverty, diseases, poor nutrition, flimsy products, unsafe localities and vulnerable homes seek the attention of designers, like everyone else concerned about common good and future of the planet. However, science and technology do not have answers and solutions to all the problems—specifically *wicked problems*—faced by the society. Nor have industrialization and mass production been able to provide for the needs of all the people at different levels—especially at the margins—of the society.

New ways of identifying, articulating and addressing the complexities of social and environmental problems—as design problems—through design education is the primary interest area of this article. Such "design problems, experience shows, don't behave quite like normal problems in the sciences and social sciences, which can be dealt with rationally, empirically and quantitatively. And when they don't behave, we have declared that misbehavior 'wicked' and added an overlay of the qualitative to try to rectify the situation" (Diethelm, 2014, p. 1). Referring to Rittel's (1973) theory of *wicked problems*, Buchanan (1992), in his seminal paper 'Wicked Problems in Design Thinking', explains why design problems are indeterminate and, therefore, wicked. The complexities of these problems are defined through the theory of *wicked problems*, which is also used as the theoretical framework for this research.

It is evident that concerns for social responsibility are not new. However, the significance of social responsibility in the context of design, designers and their education is now gaining wider attention. The reviewed literature lends support to the need to examine the issues of social responsibility of designers. It

highlights the significant contribution of design in promoting resource-intensive consumerist activities and their social and environmental consequences.

The review of literature related to design education in India and specific search related to contemporary design education programs in context of the values of social responsibility follows.

The India report by Charles and Ray Eames (1958) is an important vision document in the history of design education in India. As per the recommendations of this report, in 1961, the Government of India established the National Institute of Design in Ahmedabad. This is considered as a significant milestone in the development of contemporary design education in India. *50 years of the national institute of design 1961–2011* published by NID (2013), reconstructs the five decades of institutional history of this first design school of India, is another important source. Another recent work, a PhD thesis by Suchitra Balasubrahmanyan (2012) titled *Genesis of design education in India: The warp and weft of local – global contexts* provides a valuable account of the development of contemporary design education in India.

Though Western scholarship has paid little attention to development of design education in India, in 2005, *Design Issues* devoted its entire Autumn issue to Indian design and design education ('Design Issues - Volume 21, Issue 4 - Autumn 2005') which provide relevant insights to this research.

The conference proceedings of *Designing design education for India* organised by India Design Council at Pune, in 2013, offer a useful compendium on articulation of issues concerning design education as the conference was organised with an aim to create a "guiding (not binding) framework that represents a common rationale/philosophy for design curricula and its implementation" (India Design Council, 2014, p. 12) in the context of proliferation of design education programs and institutions in India.

Design education in India: Retrospection, introspection, and perception, edited by I. S. Mathur is a compilation of transcripts of video interviews of 50 "designers, educators, philosophers, and visualisers" (2014, p. ix) from across generations in context of design education in India. This documentation becomes valuable research resource of 'ideas, concepts, and thoughts' of these individuals.

Blogs by several designers and design educators provide individual viewpoints, as well as information and insights about contemporary design issues India. Notable among these are M P Ranjan's blog—"Design for India". This is an unparalleled blog due to extensive and detailed entries/posts on a wide variety of topics related to design, design education and praxis in the context of India.

There is substantial literature pointing to the social and environmental concerns related to design action. There are case studies from various parts of the world in experiments and explorations that highlight social responsibility of designers. However, there is paucity of literature on the role design education in India in fostering values of social responsibility. The search led to identifiable gaps in the present literature. Hence, empirical research needed to be undertaken to fill these gaps and the lack of availability of required information regarding:

- The significance of social responsibility in contemporary design education programs in India, i.e., how social responsibility is perceived and articulated in institutional manifestos, and mission and vision statements.

- The impact of these perceptions/articulations on the curriculum and pedagogic frameworks of the design education programs.

- The roles that institutions and individuals play in carrying forward the mandate of social responsibility values within design education programs in India.

- The pedagogical and practical challenges faced by faculty members and students in fostering values of social responsibility.

Empirical research contributed to generating new information as well as corroborated whatever little information was available. Thus, my research on values of social responsibility in contemporary design education programs generated new knowledge and contributed in expanding the body of knowledge on design education in India.

Research Methodology

The theory of wicked problems[4], which was initially developed by Horst W. J. Rittel (1972), further elucidated by Richard Buchanan (1992) and Jon Kolko (2012), amongst several others, provides the theoretical framework for this research (Figure 2, page 21).
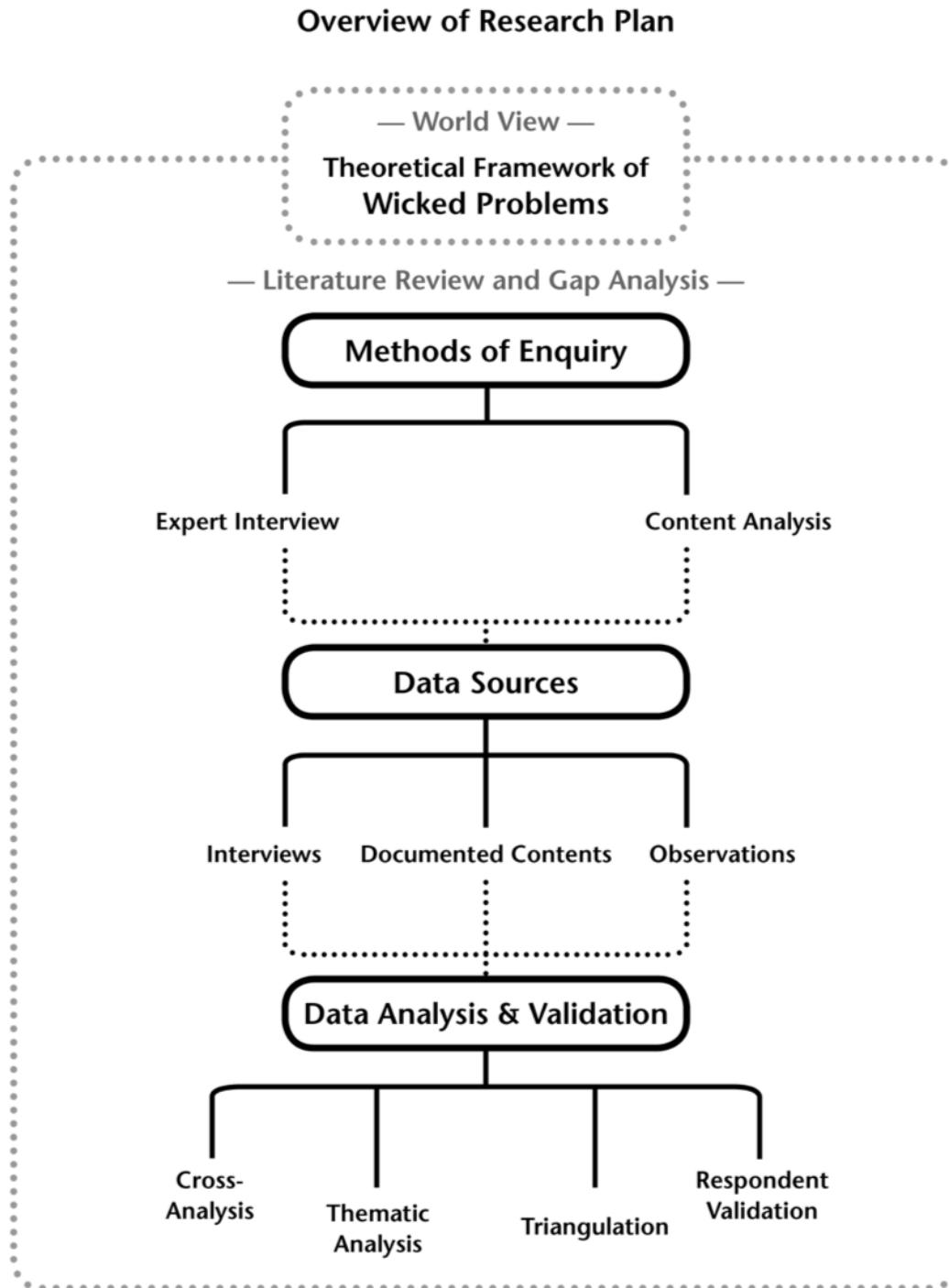
The nature of my investigation essentially dealt with qualitative values and fostering of values; this required application of qualitative research methods. I used the expert interview as a method of empirical research to explore and reconstruct explicit expert knowledge as distinct from everyday common-sense knowledge.

"Since the expert's impression of the interviewer influences the type of knowledge he/she will communicate in the interview, relevant expert knowledge can only be obtained through professional reference to the expert's actual relevance system" which is "central constitutive element of such interviews" (Bogner, Littig, & Menz, 2009, pp. 7–8). As the interviewer, I had the vantage point of being in the role of a "quasi-expert" to probe the experts' views, since I have been a design student, professional communicator and a design educator for over two decades.

The expert's relevance is heightened by "the responsibilities attached to his or her position and function in the field of action under study" or "institutionalized authority to construct reality" (Bogner et al., 2009, pp. 26, 19). I interviewed 18 experts for the present study. There were nine women and nine men in ages ranging from 30 to 63 years. All of them have been, or are currently, involved with design education in India, either full-time or part-time as visiting faculty, for a range of 3 to 31 years. The respondents have been involved with design education programs across India. They represent experiences and provide insights from across more than 20 institutions, where several of them held or still hold key administrative positions as heads, deans or directors of programs. All of them have been design students themselves and are now professional communication/design practitioners.

Figure 2

Overview of the research plan

Overview of Research Plan

— World View —
Theoretical Framework of Wicked Problems

— Literature Review and Gap Analysis —

Methods of Enquiry

Expert Interview   Content Analysis

Data Sources

Interviews   Documented Contents   Observations

Data Analysis & Validation

Cross-Analysis   Thematic Analysis   Triangulation   Respondent Validation

The data gathered through interviews was corroborated through triangulation method[5]. In this process, curriculum/syllabus and other institutional documents were cross-analyzed. To maintain the integrity of information collected through the interviews and for ethical conformity, the transcribed interviews were sent back to the experts for confirmation, clarification and re-validation. In absence of Institutional Review Board (IRB), or Institutional Ethics Committee (IEC), at the affiliate institution, the rights and welfare of the respondents have been protected. Hence, complete transcripts have not been appended. Interviewees' express consent has been obtained to quote or cite their names.

Design Education in India—A Brief Background

In this section, I give a brief background of the development of design education in post-colonial India. Further, I examine the Western influence that had impacted the contemporary evolution of design education in India.

To understand the roots of contemporary design education in India, it is relevant to delve into the process of rebuilding and reconstituting post-colonial India (liberated from British rule in 1947), and the development dilemmas faced by the architects of modern India. Under the influence of the colonial rulers, India, with its well-established base of craft traditions, was already experiencing transformational impacts of industrialization and mechanized mass production. Indian thought leaders and influential thinkers like Rabindranath Tagore, Anand Coomaraswami and M. K. Gandhi, "articulated a vision of modern India where the past was seen as resource for building the future unlike the vision of the industrialists and economists for whom prosperity could be achieved only by distancing India from her past" (Balasubrahmanyan, 2012, p. 66).

As the first prime minister of independent India, Jawaharlal Lal Nehru envisioned a self-reliant India and higher living standards for the citizens. Nehru led the economic, social and cultural transformation process of the newly independent nation, with his vision of scientific, technological, industrial modernity, which overshadowed the other alternatives. For this, Nehru was open to assistance and cooperation from outside. In his autobiography, he wrote,

"We shall want help of many foreign experts in many departments of public activity, particularly in those which require special technical and scientific knowledge" (Nehru, 1985, p. 445).

Directly relevant to this discussion is the Government of India's invitation to eminent American designers, Charles and Ray Eames, a decade after Indian independence, "to recommend a program of training in the area of design" (Eames & Eames, 1991, p. 63). Eames prepared the India Report in 1958 which led to the establishment of National Institute of Design (NID) in Ahmedabad, in 1961. This was a key milestone of the formal design education in India. Subsequently, in 1969, Industrial Design Centre (IDC) was established at the Indian Institute of Technology (IIT) Bombay.

Both these pioneering institutions had a strong influence of Western models of design education. Ashoke Chatterjee (2005), former director of NID, points out that "NID was the first attempt by any developing country to use the design disciplines inherited from the Bauhaus as a tool for national regeneration" (p. 5). The Bauhaus influence on NID was actually mediated and channeled through the Ulm-NID relationship. International visitors and teachers contributed to the education program and training of trainers at NID. Besides Charles and Ray Eames; Frei Otto, Hans Gugelot, Arno Votler, Herbert Lindinger, Christian Staub, Wolfgang Siol, Armin Hofman, Rolf Misol, Louis Khan, are a few more names. Faculty members, who formed the teaching force at NID and IDC in the initial years, like H. Kumar Vyas, Sudhakar Nadkarni, Paramanand Dalwadi, Gajanan Upadhayay, Jayanti Panchal, Mohan Bhandari, S M Shah, Manu Gajjar, Mahendra C. Patel, Kirti Trivedi and others, had close connections with Ulm or Basel in the 1960s and later. (Ranjan, 2002/2004, p. 6; Ranjan, 2013).

Design education programs in India had significant influence of what Jan Michl (2010) describes as "modernist monopolization of design education" through the spread of the Bauhaus curriculum of the 1920s in the design pedagogy of practically all industrialized countries after the Second World War, leading to an "aesthetically unified" "single-style modernist regime of contemporary design schools".

This effect further trickled down into the contemporary design education programs. NID and IDC as premier institutions of India had far-reaching influence on the new institutes and programs. On the one hand, they served as models for pedagogic and curricular frameworks for new design education initiatives. On the other hand, many graduates from these two institutions took up academic as well as administrative positions to spearhead design education programs across the country. Thus, as in other parts of the world, Bauhaus (through NID and IDC) became a part of the DNA of several new design institutions in India.

Contemporary Design Education Programs in India and Concerns for Social Responsibility

In the light of the preceding historical background of design education in India, in this section, I examine and analyze how social responsibility is valued in the conceptual and pedagogic frameworks of contemporary design education programs of professional communicators and designers in India.

Kirti Trivedi (2003), former professor of design at IDC recalls: "The National Institute of Design (NID) and the Industrial Design Centre (IDC) were established in the 1960s with public money to help in the social and economic development of India. The early student projects in these institutes reflect this concern." He also points out that, "with the repositioning of design as a marketing tool in the era following the so-called 'globalisation' of the Indian economy, this perception of the role of design has sharply changed" (p. 9).

The profession of designers, described as a 'minority profession' way back in 1980 by Norman Potter in his book, *What is a designer?* (p. 13) remained so India until the 1990s. Individuals who studied design and/or started practicing design in India before the 1990s expressed the same views during their interview. Many respondents resonated that, globalization and liberalization of Indian economy, from 1990 onwards, paved the path for this 'minority' profession metamorphosing into a mainstream profession in India. An examination of the exponential increase in the number of new design education programs of a wider

variety establishes this fact. Through public or private initiatives, or both, these came up either as departments in universities or standalone design schools and even small independent design education initiatives. The growing involvement of private players, with huge financial investments and international collaborations, further points to the growing demand for design education. This was linked to growing demands from the industry offering new career opportunities.

The following chart shows year-wise inception of such design education programs that have come up over the years since the inception of NID in 1961. It shows a notable increase in numbers of these programs around the 199os (not the number of seats), the period of economic liberalization in India, and the exponential increase thereafter. Over the decade between 2006 and 2016, these numbers peaked. It is worth mentioning that the number of seats available for student enrolment in each program have also multiplied rapidly over the years.

The preceding discussion shows that the focus of contemporary education programs is mainly to support the endeavors of the industry towards promoting production and consumption. A close examination further highlighted the fact that most of these programs are primarily geared towards providing training to students such that they become employable design professionals to meet the projected needs of the market and industry oriented towards commercial viability and profit maximization.

In response to how the focus of contemporary design education programs over the last 10 years have changed compared to the earlier period, almost all the respondents expressed that they had not seen any major change in design education vis-à-vis the curriculum. A 52-year-old woman expert, an NID alumnus, a professional communicator for 25 years, and involved with design research and design education for 19 years, explains:

> It is not as if design education has not changed. But, I do not see a big shift or any basic enquiry, which moves away from that Bauhaus mode of teaching, no radical change." She further elaborates: "From five and a half years, the program at the NID has been trimmed to four years. I feel the packaging may have changed; the title or labeling [of courses] may have

changed; new courses have started like, new media and user interface. But I do not think the premise of design education has changed or has been radically re-examined." She specifically referred to the "huge paradigm shifts that have happened with young learners today. (personal communication, July 18, 2016)

Another 60-year-old expert, who has been a design student, design practitioner and design educator, and has headed several design education programs and institutions, further explains this paradigm shift:

The change actually has come about from the perspective of the aspiration of the students who apply for design preparation. And that, in a way, defines change. Because aspirations are different, the quality and nature of engagement are different. And the purpose for which now people and through which students engage with design education is different. So, while contents and curricula haven't gone through a major change, there is a major change in terms of the way in which students engage with the education. (personal communication, July 18, 2016)

A 55-year-old expert respondent, practicing design for 31 years and has been a visiting faculty at design schools for 21 years, observes that most of contemporary design education programs are employability driven, training students in the "craft of design" who are good with software skills, who are meticulous with getting the forms right, the kerning right, to get sophisticated looking polished output, but they are not thinking individuals. He describes them as "Photoshop donkeys" and explains: "Because they are good, they don't think. And design is essentially a thinking profession," and require soft skills "on sensitivity, team work, being grounded, developing empathy" (personal communication, July 15, 2016). Such soft skills would be essential to deal with the social and cultural wicked problems and challenges that designers in India need to address.

A study of the manifestos, mission and vision statements, of several design education institutions available in public domain[7] presents the educational intent of fostering values of social and cultural relevance and service, addressing

needs of different sectors, humanizing technologies, raising quality of life, promoting design awareness, and address the larger local and global problems. Following is an example of such a vision and mission statement:

> A holistic design education that shapes the students into responsible contributors to the society. It enables them to identify significant contemporary problems, inculcate critical thinking, critique conventional solutions, and challenge the status quo to arrive at creative solutions through collaborative team efforts at different levels of society and influencing policymaking that lead to innovations. (Industrial Design Centre (IDC) IIT Bombay - Vision & Mission, n.d.)

However, the experts, while responding to the query regarding institutional statements, observed a wide gap between the intent and actualization of fostering values of social responsibility and larger public good. Most of them were of the view that there were fewer opportunities within the curriculum to address such issues. They noted that the major curricular emphasis is on skill-oriented courses that aligned with expectation and demands of the industry and job market by focusing on transfer of skills and techniques; know-how of tools and technology; and client presentation techniques, to sell—ideas, concepts, products, services. The experts were of the opinion that such courses made-up 85% to 90% of the total offering of the courses.

Study and analysis of curriculum/syllabus of several contemporary design education programs further support these observations. In the foundation year of design education programs, the emphasis on skill-oriented courses accounted for between 80% and 84% of time allocation. Courses, which could be connected to aspects of social responsibility, environmental concerns and which could possibly contribute to development of such understanding, ranged between 16% and 20%. In the following years of specialization, this reduced to 5% to 6% of the total time allocation mostly being non-core peripheral courses, while the central focus was high on specialization specific skills, technical inputs for know-how, presentation

techniques, exposure/understanding of the industry, professional projects and practices, for better employability.

My research showed that the issues of social responsibility are not prioritized in most of the contemporary design education programs in India. Furthermore, the philosophical and conceptual intent, as expressed in institutional mandates, does not faithfully translate into actual curricula that foster values of social responsibility in their students, the future professionals.

Role of Individuals in Addressing Issues and Concerns for Social Responsibility in Design

In the absence of substantial institutional emphasis in fostering values of social responsibility during the design education programs, the role of individuals—faculty members as well as students—assumes greater significance.

Most of the experts interviewed for this research shared the view that discussions related to ethics, values, beliefs and orientation of designers in context of social responsibility, environmental concerns, governance and related wicked problems are avoided, or limited to, individual interests of concerned faculty members or students. Therefore, the few specific courses, which have the scope and opportunities to bring forth, contemplate, question and discuss these issues and foster related values, are dependent on individuals. There are no assured and consistent program inputs in these seemingly personal, yet critical, areas of design education. The experts strongly highlighted the lack of definite academic guidelines or curricular emphasis on issues of social responsibility as an integral part of the education of the future professional communicators and designers. They also pointed to the paucity of interested, committed as well as experienced faculty in these areas of concern. They highlighted the absence of faculty training and development programs which could induce the new faculty members and keep the existing faculty members updated with the current development in the areas of concern and clearer directions. Training of trainers emerged as another significant, yet under-addressed, issue.

This emphasis on the role of the individual has been a part of the larger Indian metaphysical tradition from times immemorial. To quote the words of J Krishnamurti, "It is always the individual, never the group or the collective, that brings about a radical change in the world" (Evans & Steen, 2007, p. back cover). Individual personal transformation was central to M. K. Gandhi's ideas of social change as well.
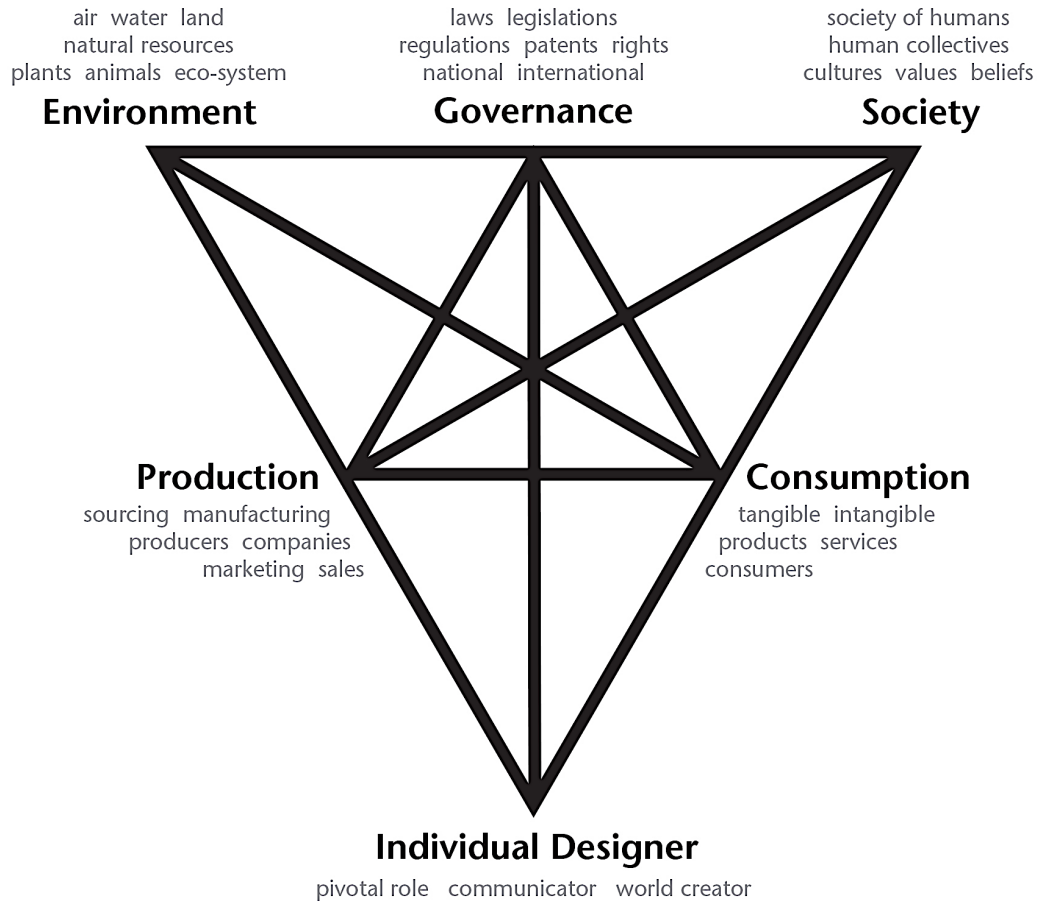
Bryan Lawson (2006), psychologist, architect and design researcher, in his book *How designers think: The design process demystified*, points out: "the designer does not approach each design problem afresh with a *tabula rasa*, or blank mind, as is implied by a considerable amount of the literature on design methods. Rather, designers have their own motivations, reasons for wanting to design, sets of beliefs, values and attitudes" which serves as "guiding principles" of a designer's thought and action (p. 159). A designer's personal beliefs—orientation and understanding of justice, equity, economics, class, caste, color, gender, religion, and politics—influences and reflects in the creation process of a small piece of communication or a large system. The evolution of these beliefs and values during the education and training of the professional communicators and designers also influences the priority of choice in what they set out to address and resolve. Both, the students as well as the faculty members, need to determine and strengthen the 'guiding principles' to build strong character for a socially responsible practice.

Model of Contemporary Networks

To further highlight the complexities a professional communicator or a designer needs to address, as described through the theory of wicked problems, a 'model of contemporary networks' is proposed below (Figure 3, page 30). It represents the complex interrelationships of production, consumption and governance systems, within larger contexts of environment, society and the individual designer in creating the artificial world by design.

Figure 3

Model of Contemporary Networks with Reference to the Individual Designer

air water land
natural resources
plants animals eco-system
Environment

laws legislations
regulations patents rights
national international
Governance

society of humans
human collectives
cultures values beliefs
Society

Production
sourcing manufacturing
producers companies
marketing sales

Consumption
tangible intangible
products services
consumers

Individual Designer
pivotal role   communicator   world creator

In the model, I refer to 'environment' as an inclusive term to represent the environmental components of planet Earth. This includes all the natural resources, the whole eco-system and its delicate balance.

Further, I refer to 'society' as the society of humans—the aggregate of human collectives of appearance, cultures, customs, practices, values, beliefs, status, class, natural or political boundaries and so on.

In the model, I use 'production' as an inclusive term but not limited to represent the nexus of raw material sources, production infrastructures, manufacturing units, industries, factories, producers, storages, transportation networks, technical and creative teams, companies, corporations, product and service providers, marketing, merchandising, retailing, customer care, after sales services, etc.

Similarly, I use 'consumption' as another inclusive term depicting the action of buyers, hirers, users, seekers, consumers of the products and services provided in tangible and intangible forms.

And, 'governance' includes consumer laws, labor laws, antitrust laws, legislation, import and export regulations, memorandums of understanding, embargos, trademarks, copyrights, patents, licensing, taxation, at local, national and international levels.

The production nexus is supposed to serve the interests of consumers with due consideration for the environment and society at large. In the process of serving the consumer, this nexus serves its own interests of profit making. In doing so, if it starts compromising on its expected self-governed roles and responsibilities. External governance in its various forms needs to be in place as depicted in the above model, to maintain stability.

The spirit of all-pervasive consumerist globalization attempts mass commodification by attaching the idea of value and profit to every opportunity and possibility. The process of commodification needs designs in the form of innovative ideas, creative thinking, production engineering, marketing and communication strategies to translate these designs as tangible or intangible but desirable consumables. The faster pace and the wider spread of consumerist fervor and the 'designs' of the market on the consumers, professional communication strategies can further lure more and more people from every possible corner of this planet into the consumerist trap. With 'new' designs of products and services, the society is led into what can be termed in its dual meaning as a, 'consumerist world by design'.

The impact of such a world is not limited to the consumer in isolation but also has direct and indirect impact on society and environment at large, by further

contributing to 'wicked problems'. The model of contemporary networks essentially illustrates the complex interconnect and interdependence of the different components of this network. These components are powerful entities in themselves as well as share a highly contingent and complex relationship with one another. Environment and society, mediated by governance, is seen as the largest components right on the top. Production and consumption represent the powerful and dynamic consumerist forces within this network.

Though the individual human being is a part of the global society, which, in turn, is a part of the natural environment, the individual is also represented separately in the model at the pivotal position in the interaction. Even though an individual is the smallest component in such a network, it is at the crucial pivotal position with ubiquitous presence within each of the components. Thus, actively or passively participating and contributing in the vital balancing act of the contemporary network in totality.

Individuals, in the role of professional communicators and designers, hold huge latent power—as agents of change—in creating the 'world by design'. The act of designing has deep interconnection with society and environment besides its apparently direct link with production and consumption. Therefore, designing for others entails ethical considerations and social responsibility on the part of the designers. Design thinking and design action is becoming complex at the systems level in dealing with 'wicked problems' which several other traditional scientific discipline are unable to cope with. Since the understanding of design is changing, design education needs to take cognizance of that.

Conclusion and Recommendations—Conceptual Models for Future Action

With a brief background of the inception of design education in India, the preceding part of the article presented its expansion in post-colonial India. Thereafter, it presented 'what is' the status and developments of contemporary design education programs with specific concerns for social responsibility of

designers in context of globalization and economic liberalization in India. The three key issues that emerged from my research are:

- gap between the intent, as expressed in institutional mandates, and their actualization in the pedagogic frameworks

- lack of curricular emphasis and definite academic guidelines for consistent and assured inputs related to social responsibilities of designers

- undervalued role of individual faculty members and students in addressing issues and concerns for social responsibility within the design education programs.

Presented below is a conceptual model of 'future actions'. The implementation of the model would require actions need at the institutional as well as individual level—by faculty members as well as students. To bring about change in 'what exists' three closely interrelated stages are proposed below and further elaborated for possible actualization of 'what ought to be':

1. Need recognition,

2. Commitment articulation,

3. Actualization methods

1. Need Recognition

Any positive action for inculcating social responsibility among designers presupposes that, design institutions have to recognize it as intrinsic to the fabric of curriculum. It cannot be a one-off, negotiable part of the program. In addition, it has to be recognized as the basic ethos by each and every faculty member and staff of the program. Only then will the students understand and appreciate the significance of social responsibility. Further, the recognized need has to be externalized as clearly articulated understanding and commitment for change.

2. Commitment Articulation

Articulation of commitment to responsible design and an action plan declared by each institution—through publicly shared documents such as an institutional manifesto, vision document, and mission statement—would create self-imposed moral and ethical thrust to act up to the declarations. A step forward regarding these public declarations would be setting up a mechanism for institutional accountability and progress audits in order to advance towards the achievement of institutional vision and mission, and fulfil the promises made in institutional manifestos. Further, institutions should allow scope for periodic re-examination and re-interpretation of their vision and mission document to update and reconcile it with new developments in pedagogy and praxis as well as to address contemporary changes and challenges faced by the society and the environment. Similarly, individuals also need to articulate their responsible design commitments and possibly detail these by way of personal manifestos to create common ground for the implementation of a shared vision and mission.

3. Actualization Methods

The paper consolidates actualisation methods that can strengthen the role of design education programmes as well as empower individuals with the aim of consistency and assurance in delivering values of social responsibility. Three key components of the proposed actualisation methods are curriculum development, faculty development, and value development.

Curriculum Development. Not surprisingly, none of the institutions claims that its curriculum and courses are directed towards producing 'anti-social' or 'irresponsible' designers. However, the findings of the study assert the need for curriculum development that can effectively carry forward the responsible design mandate. The study also points to the need to identify real concerns of students of the current generation and explore the possibilities of aligning the social responsibility agenda to these concerns. A few isolated courses in existing curriculums are inadequate for carrying forward the social responsibility mandate

in an integrated, holistic manner. Social responsibility must be recognised as one of the overarching values of a design curriculum. In addition, it has to be recognised that the students who are equipped to deal with complex social problems and are better grounded in responsible design issues will not only contribute to the larger social good, but will bring added value to the mainstream industry as well.

Faculty Development. In an education programme, training of trainers and faculty development can be seen as the logical points of intervention to initiate and sustain any change. To lead a programme in responsible design, first and foremost, faculty members have to be prepared to implement the social responsibility mandate of the institution and their own individual manifestos. A professional development programme for faculty has to recognise that not all faculty members will have the required background and understanding of responsible design issues and current developments. Therefore, the faculty development programme has to be prepared to sustainably fulfil the requirement for supported learning of relevant theories, issues, and current trends, and acquiring a deeper understanding of society, culture, environment, people, economy, polity, equity, ethics, sustainability, prosperity, and other related issues. Design educators will have to re-examine, modify or even change some of their older ways of teaching, guiding, approving, and even assessing student projects and assignments. With proper preparation, contemporary design educators will be better able to play the critical role of mentoring future creator-designers; therefore, design schools and programmes should actively facilitate such preparation.

Value Development. To ensure consistent responsible design input and faithful implementation of responsible design values, the article recommends a 'filter system' for the design process of socially responsible design. Broadly, the proposed filters are to provide ways of identifying design propositions, ideas, and decisions that could contribute to irresponsibility and segregating them from those that ensure responsible design decisions.

This filter system would have array of filters. There could be basic sets that could be used as default. The whole filter system would be open to permutations, combinations and modification of the basic filter sets, as well as creation of new ones, to arrive at an appropriate order. Filters could even be customized to vary their filtering strength to deal with specific instances or particular projects. For instance, there could be a set of filters deemed suitable for first year design students. As the students advance in their learning and understanding, they may be given another version of these filters with more stringent parameters. Progressively, they could be prepared to deal with more complex real-world situations. Some components of such filters are discussed below.
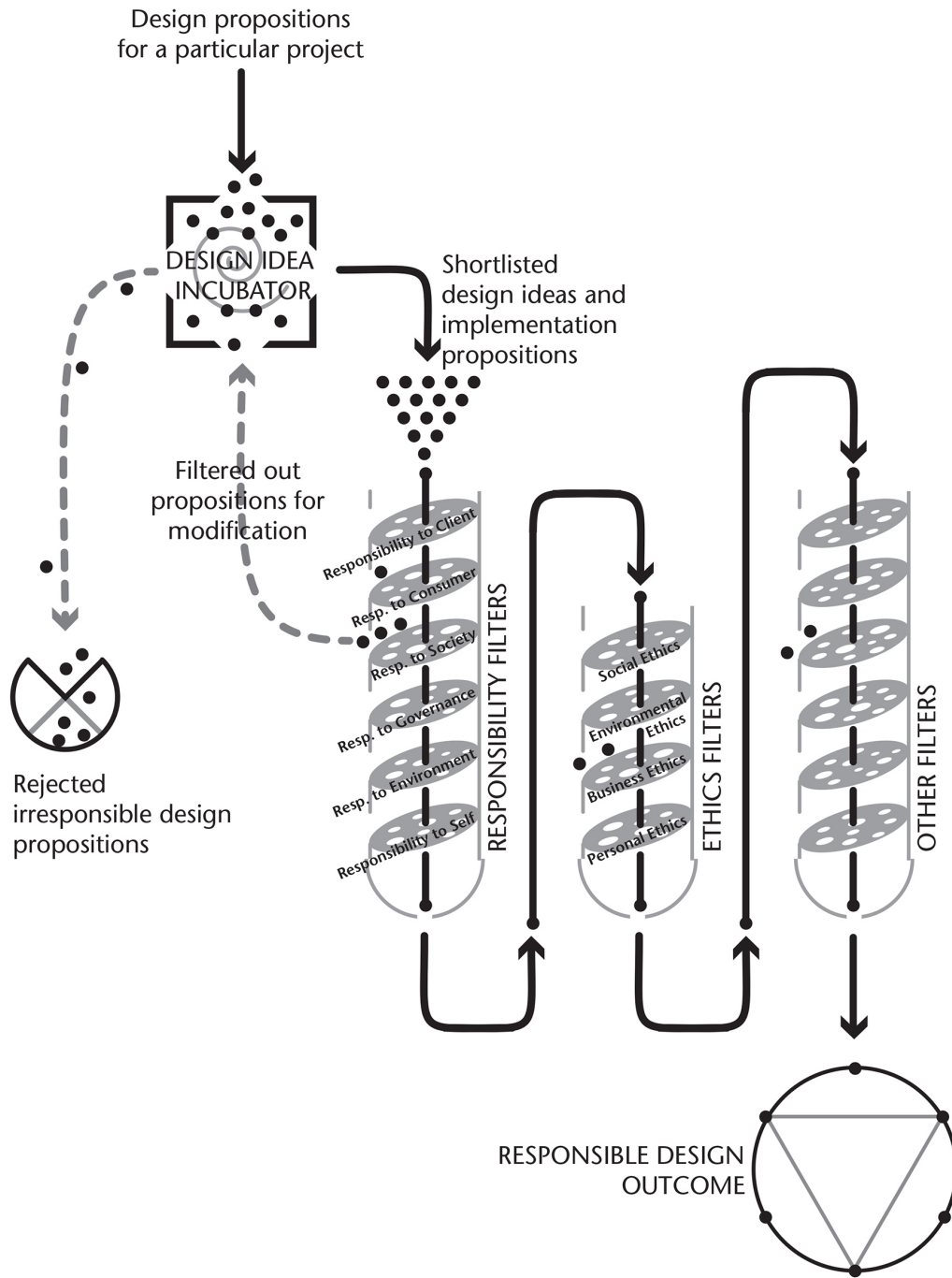
'Responsibility filter' could be constructed by incorporating various components of responsibility expected of a design professional. The earlier description of 'model of contemporary networks' is used as a basis to elucidate the example of the responsibility filter. The design propositions for a particular project have to pass through each of the following filter points, to be acceptable for further action:

- Responsibility to client
- Responsibility to consumer
- Responsibility to governance
- Responsibility to society
- Responsibility to environment
- Responsibility to self.

If a design decision fails to pass through any one of these filters, it would either need to be reconsidered for modification (or disclosed to stakeholders and regulators who can act with their own conscience) or be discarded. Otherwise, the filter component itself would have to be readjusted for its level of strength or consciously altered.

Figure 4

Visual representation of 'Filter System' for implementation of responsible design.

Design propositions
for a particular project

DESIGN IDEA
INCUBATOR

Shortlisted
design ideas and
implementation
propositions

Filtered out
propositions for
modification

Rejected
irresponsible design
propositions

Responsibility to Client

Resp. to Consumer

Resp. to Society

Resp. to Governance

Resp. to Environment

Responsibility to Self

RESPONSIBILITY FILTERS

Social Ethics

Environmental Ethics

Business Ethics

Personal Ethics

ETHICS FILTERS

OTHER FILTERS

RESPONSIBLE DESIGN
OUTCOME

Similarly, the 'ethics filter' will have components such as environmental ethics, social ethics, business ethics and so on. There could be a separate personal ethics filter that could be applied by the individual during the design decision-making process, over and above the general ethics filter. A 'personal ethics filter' would be suitable to implement a personal manifesto. There could be several such filters with varied construction components and their intensities. Finally, when all the design decisions successfully 'pass' through the array of filters, the resulting design outcome would well pass the 'litmus tests' for social responsibility. I present the preceding discussion of the 'filter system' as a schematic diagram in the figure below (Figure 4, page 37).

A responsible design education programme has to incorporate these filters in its *modus operandi*. The courses, individual assignments, and especially independent projects that students take up in their senior years to apply and demonstrate their learning, would need to pass through appropriate filter systems. This would also help ensure that courses which incorporate the values of responsible design are not one-off, isolated, or elective courses. To establish a design education system, that is amenable to social responsibility issues, right from the beginning till the end, needs to meticulously incorporate the filter system into the assessment rubrics as well.

These filter systems can equally well be applied to professional design practice. The versatility of such filter systems provides ample scope for development and pursuit for excellence. Independently or as part of collectives/networks, for example design schools and professional bodies, individuals can figure out ways of identifying, examining, and integrating new approaches with the view to filter out irresponsible design from education programmes and praxis. With the ever-growing influence and significance of professional communication and design in everyday life, and with growing concerns over its environmental and socio-cultural consequences, now seems a critical time, maybe a tipping point, to bring about a paradigm shift in our ways of teaching, learning and practicing design. ■

Notes

1 The primary research for this article was undertaken for a doctoral research from an Indian university to formally test the hypotheses put forward in this article that emerged from my personal experience as a student of design and later as a practitioner and teacher over 25 years.

2 The article is a partly reformulated and slightly expanded version of the original titled "Am I just seeing things—or is the modernist apartheid regime still in place?" invited lecture at the conference of CUMULUS (The International Association of Universities and Colleges of Art, Design and Media) in Bratislava, Slovakia, on October 12, 2007 (Michl, 2010).

3 The task of philosophical anthropology is to deliver a "theory" of the human being in general. It is, therefore, not to be mistaken for the anthropology of our academic "Department of Anthropology." (Findeli, 2001, p. 6)

4 Brief description of 10 distinguishing properties of wicked problems:

   1. Wicked problems have no definitive formulation.

      The problem of poverty in the USA or Ethiopia is grossly similar but discretely different from poverty in India. Or, for that matter, even within India, the problems of poverty would be distinctive with some commonality with Dharavi slums of Mumbai and a remote tribal village in Chhattisgarh. So no common practical characteristics describe "poverty" uniformly and completely.

   2. Wicked problems have no stopping rules.

      It's difficult, maybe impossible, to measure or claim success with wicked problems because they bleed into one another, unlike the boundaries of traditional design problems that can be articulated or defined.

   3. Solutions to wicked problems can be only good or bad, not true or false.

      There is no idealized end state to arrive at, and so approaches to wicked problems would mostly be tractable ways to improve a situation rather than solve it.

   4. In solving wicked problems, there is no exhaustive list of admissible operations.

      There is no template to follow when tackling a wicked problem, although history may provide a guide. Teams that approach wicked problems must literally make

things up as they go along, since there is no well-described set of operations that may be incorporated into the plan.

5. There is always more than one explanation for a wicked problem.

   The existence of a discrepancy representing a wicked problem can be explained in numerous ways. The choice of explanation determines the nature of the problem's resolution, which depends greatly on the individual perspective or the worldview—the Weltanschauung—of the designer.

6. Every wicked problem can be considered to be a symptom of another problem.

   The interconnected quality of socio-economic political systems illustrates how, for example, a change in education can cause new behavior towards nutrition.

7. No formulation and solution of a wicked problem has a definitive test.

   No mitigation strategy for a wicked problem has a definitive scientific test because humans invented wicked problems and science exists to understand natural phenomena.

8. Offering a "solution" to a wicked problem frequently is a "one shot" design effort because a significant intervention changes the design space enough to minimize or negate the ability for trial and error.

9. Every wicked problem is essentially unique.

10. The wicked problem solver has no right to be wrong.

Therefore, a professional communicator or a designer is also responsible for the outcome and impact of their design action. (Rittel & Webber, 1973, pp. 161–167; Buchanan, 1992, p. 16; Kolko, 2012, pp. 10–11).

5 To corroborate data and validate the findings in this article, two types of triangulation processes were applied:

- Data Triangulation – used for examining the consistency of different data sources from within the same method as with expert interviews.

- Methodological Triangulation – used for checking the consistency of findings generated by different data collection methods i.e., interviews and documented contents.

6 Compiled from the following web links as the key source of data:

1. http://www.designinindia.net/resources/institutions/educational/design-institutes-india.html

2. http://design.shiksha.com/

3. http://aishe.nic.in/aishe/institutionalDirectoryHomeIndex?hasReportLink =index (All India Survey for Higher Education)

[7] Examples of manifestos, mission and vision statements, of several design education institutions available in public domain (web links retrieved February 10, 2017):

- Ambedkar University Delhi (AUD): http://www.aud.ac.in/aboutus/vision-and-mission

- DJ Academy: http://djad.in/about-us/vision-mission/

- Indian Institute of Crafts & Design (IICD): http://www.iicd.ac.in/vision-mission/

- Indian School of Design & Innovation (ISDI): http://www.isdi.in/about-us.html

- Industrial Design Centre (IDC) IITB: http://www.idc.iitb.ac.in/about/Vision_Mission.html

- MAEER'S MIT Institute of Design: http://www.mitid.edu.in/philosophy.html

- National Institute of Design (NID): http://www.nid.edu/institute/mandatemission -vision-values.html

- Pearl Academy: http://pearlacademy.com/vision-mission/

- Srishti Institute of Art, Design and Technology: http://srishti.ac.in/about-us

- The Design Village: http://www.thedesignvillage.org/overview/

More links can be accessed through 'Design in India' website: http://www. designinindia.net/resources/institutions/educational/design-institutes-india.html

References

Balasubrahmanyan, S. (2012). *Genesis of design education in India: The warp and weft of local - global contexts* (Diss). Ahmedabad, India: CEPT University.

Bogner, A., Littig, B., & Menz, W. (Eds.). (2009). *Interviewing experts* (2009 edition). New York, NY: Palgrave Macmillan.

Buchanan, R. (1992). Wicked problems in design thinking. *Design Issues*, *8*(2), 5–21.

Carson, R. (1962). *Silent Spring* (1st ed.). Boston, MA: Houghton Mifflin.

Chatterjee, A. (2005). Design in India: The experience of transition. *Design Issues*, *21*(4), 4–10. https://doi.org/10.2307/25224014

Diethelm, J. (2014). A paradigm shift in design thinking. Retrieved from http://www.academia.edu/7153275/A_Paradigm_Shift_in_Design_Thinking

Eames, C., & Eames, R. (1991). The Eames report April 1958. *Design Issues*, *7*(2), 63–75.

Evans, D., & Steen, F. (Eds.). (2007). *Social responsibility: a selection of passages for the study of the teaching of J. Krishnamurti.* Chennai, India: Krishnamurti Foundation India.

Findeli, A. (2001). Rethinking design education for the 21st century: Theoretical, methodological, and ethical discussion. *Design Issues*, *17*(1), 5–17. https://doi.org/10.2307/1511905

India Design Council (Ed.). (2014). Conference proceedings: *Designing design education for India* [13-15 March 2013. Pune, India]. Ahmedabad, India: India Design Council.

Industrial Design Centre (IDC) IIT Bombay (n.d.). Vision and mission. Retrieved [July 31, 2016] from http://www.idc.iitb.ac.in/about/Vision_Mission.html

Kolko, J. (2012). *Wicked problems: Problems worth solving. A handbook and a call to action*. Austin, TX: Austin Center for Design (AC4D).

Lawson, B. (2006). *How designers think: The design process demystified* (4th ed.). Oxford and Burlington, MA: Elsevier/Architectural.

Mathur, I. S. (2014). *Design education in India: Retrospection, introspection, and perception* (1st ed.). Ahmedabad, India: National Institute of Design.

Michl, J. (2010). A case against the modernist regime in design education. Retrieved [June 27, 2012] from http://www.janmichl.com/eng.apartheid.html

National Institute of Design. (2013). *50 years of the National Institute of Design 1961–2011*. Ahmedabad, India: National Institute of Design.

Nehru, J. (1985). *An autobiography*. New Delhi, India: Oxford University Press.

Nelson, H. G., & Stolterman, E. (2003). *The design way: Intentional change in an unpredictable world*. Englewood Cliffs, N.J.: Educational Technology Publications.

Papanek, V. (1985). *Design for the real world: Human ecology and social change* (2nd rev. ed.). London, United Kingdom: Thames & Hudson.

Potter, N. (1980). *What is a designer: Things, places, messages* (2nd rev. ed.). London: United Kingdom: Hyphen Press.

Ranjan, M. P. (2002/2004). The avalanche effect: Institutional frameworks and design as a development resource in India. [Manuscript originally prepared in 2002 and then posted privately to PhD-Design discussion list in 2004], 14 pages. Retrieved from:
http://www.academia.edu/3618374/Design_Education_for_India_blog_post_on_Design_for_India

Ranjan, M. P. (2007, June 14). Mission statement [Blog post]. Retrieved from http://design-for-india.blogspot.in/2007/06/mission-statement.html

Ranjan, M. P. (2013, June 26). Web of connections: Indian design education with influences from the HfG Ulm [Blog post]. Retrieved from http://design-for-india.blogspot.com/2013/06/web-of-connections-indian-design.html

Rittel, H. W. J., & Webber, M. M. (1973). Dilemmas in a general theory of planning. *Policy Sciences*, *4*(2), 155–169. https://doi.org/10.1007/BF01405730

Scotford, M. (Guest Ed.). (2005). Indian design and design issues [Special issue]. *Design Issues,* 21(4). Retrieved September 11, 2012, from http://www.mitpressjournals.org/toc/desi/21/4

Trivedi, K. (2003, February). Sarvodaya – Betterment of all. *ICSID News*.

Ward, B. (1966). *Spaceship earth*. Columbia University Press.

White, L., Jr. (1967). The historical roots of our ecologic crisis. *Science*, *155*(3767), 1203–1207.

Whiteley, N. (2006). *Design for society. 1994*. London: Reaktion Books.

World Economic Forum. (2013). *Global risk 2013 eighth edition* (No. 301211), 80 pages. Switzerland: World Economic Forum. Retrieved from http://reports.weforum.org/global-risks-2013/

About the author

Sanjeev Bothra has been a professional communicator and a design educator for over two decades. As visiting faculty, he is associated with several design schools in India and other countries. He is keenly interested in promoting responsible design and ethical values for social, cultural and ecological sustenance on our planet.

Email. sanjeevbothra@gmail.com

Postal address.
C-115 Sri Ram Marg
Shyam Nagar
Jaipur 302019
India