

# Reimagining Citizenship: Debating India's Unique Identification Scheme

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The unique identification scheme opens up several possibilities for both governance issues and market logic. Despite enabling the identification of a person and pinpointing that x is x, the UID scheme can nevertheless bring about sharp, though problematic, shifts as well. Notably, the apparatuses of state within the premise of the UID scheme are not expected to be posed as a radical contrast to the market but rather as a node point bearing citizen data and therefore capable of operating as a facilitator and mediator of market information. At the technical level as well, the debate over the UID is far from over.

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In a recent EPW article Anant Maringanti (2009) suggests that the unique identification (UID) scheme in India is indicative of an intended shift in relationships between the state, market and citizenship. This essentially biometric intervention, he observes, while not necessarily compromising the ability of the poor to survive does not, on the other hand, automatically signal empowerment (Maringanti 2009). Rather, the UID scheme, to him, appears to offer the Indian state the possibility of "reinventing its sovereignty by adopting new technologies to know and calculate upon its populations, on its national economic space precisely in order to secure its position in the global geopolitical economies". Put differently, Maringanti is urging us to explore the social contingencies that technology creates in the making of state power.

While not disagreeing with Maringanti in substance, I, nevertheless, would argue that the current plans for the UID scheme are not perhaps as open-ended as they may appear to be. The insights offered by the field of technology studies, in particular, suggest that choices made in the modelling and design of technical systems can open up or close certain social, political and economic possibilities. That is, the UID scheme is not intended to be an "incoherent" strategy that is being simply tested by the state without great clarity in forging outcomes. Rather, it is aimed at bringing to fruition the possibility of realising simultaneously a new capacity for the state along with an altogether different type of citizenship. It is amidst this limited terrain that such state-directed intention through the UID scheme, I argue, should be explored for political possibility.

Based on available documents, articles, press releases, interviews and writings, I

suggest (not necessarily in an entire tangent from Maringanti) that the UID scheme marks an evident rather than a tentative shift: from an identity in India that was overwhelmingly concentrated as a political subject (involving rights, duties and obligations) to one that is more explicitly intended to be crafted as a consumer citizen, defined dominantly by debt legibility. The Indian state that was traditionally seen as a contrasting force to the market now emerges, instead, as a mediator and facilitator. In effect, the UID scheme, at heart intends to make both possible and legible the consumer citizen; who through acts of consumption and debt is not only made biometrically visible but reorients the state towards taking on the chief role of electronically tagging, monitoring and continually creating populations as data sets. Undoubtedly, one would agree with Maringanti here, that the intended production of the consumer citizen is not necessarily a foregone conclusion. Electronically tagging vast populations and deploying biometrics for state visibility is potentially troubled by not only the scale of the challenge but such interventions, not surprisingly, can be bent and deflected by practices on the ground. Nevertheless, the point I wish to emphasise is that, at heart, the conflicts and struggles around the UID will, perhaps, revolve around the Indian state's attempt to define a relatively more exclusive citizenship (the consumer) rather than a more inclusive citizenship (the political subject).

## Describing the Terrain

The intent of the government to have the scheme implemented post-haste is reflected by Prime Minister Manmohan Singh recently stepping in to head an Empowered Group of Ministers (EGOM) that includes the Home Minister P Chidambaram and the Finance Minister Pranab Mukherjee, for cutting through the "red tape encountered in the setting up of the Unique ID Scheme" (*DNA – Daily News and Analysis*, 2009). That the bureaucratic red tape of concern to the prime minister is also a part of the government apparatus suggests that there are other voices from within that possibly who see the successful implementation of

the scheme as diminishing their own position in the power structure (Sharma 2009). Nandan Nilekani, erstwhile head of information technology (IT) major Infosys, who has been appointed to head the Unique Identification Authority of India (UIDAI) with no less than a cabinet rank, in his popular book *Imagining India: Ideas for the New Century* suggests the idea of a UID scheme. One that he says, will be an “experiment” in India’s “virgin territory” and help to lay the foundation for changing India in fundamental ways in the coming few decades (Nilekani 2008). In Nilekani’s view, though the design has become more sophisticated over time, the basics of the scheme as outlined in the book remain the same. He sees his idea and the government imperative to implement the scheme as “a good fit” and the overall idea he says is to be “inclusive” (“The Idea Exchange”, *Indian Express*, Sunday, 29 November 2009, New Delhi). The attempt in this debate is not to question the intent behind the words, “inclusive” and “empowering” but to examine what “inclusive” or “empowering” mean within the framework of the scheme and explore the possibilities that they open up or close as a result.

That Nilekani’s understanding or indeed his imagination is relevant to our exploration is exemplified by Michel Callon’s classic study of the design of the V&L electric car in France in the 1970s. Callon noted that the designers of the technology must not only find answers to engineering problems but also imagine the social universe in which the system must function. In this process they end up working as de facto historians and sociologists (Callon 1987: 84-85). Nilekani’s *Imagining India*, eloquently traces the emergence of post-independence India from its colonial past with its legacy of colonial structures aimed at exploitation of resources and control of people to the present day. Nilekani suggests, though not in quite the same words, that the first few decades of post-colonial government were driven by the development imperative and led to industrialisation efforts and other technology intensive government programmes aimed at eradication of hunger, unemployment, poverty. Thereafter followed a transitory period which saw, among other things, the development of the telecommunication infrastructure that

laid the foundation of the information revolution that was to unfold. The thawing out of the cold war and the opening up of the economy in the early 1990s saw the rise of newer corporations such as Infosys while the older bureaucratic structures and institutions continued to exist along with the pro-liberalisation and pro-privatisation voices that initiated the change. A significant outcome of this process was the emergence of India’s middle class and its promising presence in the global marketplace.

In more recent times, there have been growing concerns about the lack of quantitative data on consumers in India, this is compounded by the diversity of the Indian consumer. As a marketing survey (2006) shows, there are 297 categories of the Indian consumer (in Delhi and Bangalore) as opposed to 26 in New York, 17 in Boston and 14 in Cincinnati. As has been pointed out by the former president of the Market Research Society of India (MRSI), traditionally available data is “insufficient to gauge their [consumers] attitude and predilections at a micro level” (Shukla 2006). The current agenda of the scheme, as stated in a public release by the Department of Information Technology (DIT) in November 2008, is one of ensuring that government welfare schemes reach the intended beneficiaries, and helping in regulations such as taxation and licensing and other security and banking and financial sector activities (DIT 2008). One can see how the scheme proposed by Nilekani and the governmental imperative to address the information gap are “a good fit”. A system such as the UID scheme by facilitating the mapping of consumption patterns to an integrated pan-India database would work towards promoting India as an accessible marketplace for banking, financial and other institutions.

As Mariganti points out, Michael Foucault’s notion of biopower offers an insight into the interest of governments in having a centralised system of identification. Biopower, or the use of technologies that “address the management of, and control over, the life of the population” by offering tools for realising the fantasy of a “society of self-regulating individuals”, it is suggested, also serves the interests of market forces by maximising the capacity

of the population to serve as human resources utilised for market capitalisation. The state itself is not seen as a monolithic whole but is “rent by contradiction and antagonism as its various agencies and expert authorities, simultaneously cooperate with, and resist alliances with market forces and social activists” (Nadesan 2008: 2-4). The rationale behind the logic of state control or private control of markets appears to be the assumption that most economic activity happens in a marketplace within which rational individuals place their own economic needs over collective needs, thus strengthening the case for external control. It has taken the work of Nobel Prize winning economist Elinor Ostrom to lend credibility to the idea of community managed common property (The Royal Swedish Academy of Sciences 2008: 1). While the study conducted by Ostrom is specific to the use of natural resources, the same may be extended to any resource that may be viewed as common property.

Insightful as a Foucauldian approach may be to understanding the existing state-people relationship, it leaves little room for ascribing human agency to a populace. An extension of Foucault’s notion of biopower suggests that people and populations are not passive receptors of attempts to establish a certain social order and discipline but creatively manipulate its mechanisms, conforming to them only to evade them and reappropriate the space organised by the techniques of instilling social order (Certeau 1984: xv). In the Indian context, Ronald Inden’s controversial *Imagining India* is seen by some as an effort to restore this human agency. The current understanding of India (that we inherit from the west), argues Inden, is one that has been framed by Orientalist or Indologist stereotypes that framed India as Europe’s “other” (Prakash 1992). Nilekani’s book of the same name, while claiming to be “getting rid of our phantoms” appears to be more in tune with the setting up of a technological framework within which the notions of empowerment and inclusion translate to either a possible increase in purchasing power (through enhanced debt legibility) or to the ownership or control of a marketable resource (which by default, is owned and controlled by the state).

Technological systems that offer different conceptions of these notions and different frameworks of representation and ownership are not only possible but have been part of a parallel tradition (Dickson 1985: 29-31).

### Talking Specifics

Nilekani points out that the UID scheme, “does not confer any rights (including that of citizenship)” (*The Hindu* 2009a), the database in itself though, is not without commercial value as even its basic functionality of verifying address and biometric data of individuals is expected to yield annual revenues of Rs 288 crore (Aggarwal 2009). It is to be noted that the database itself does store any profiling attributes – “It doesn’t identify rich, poor, religion or caste”, however it does work with “multiple partners – NREGA, income tax, passport, banks, insurance companies, LPG dealers – all those who deal with Indian residents, providing goods and services”, it would be safe to assume that the same profiling attributes, and more, would form the database of the partners. At a policy level, there is no clarity on inter-departmental accessing of information, neither are there any privacy laws in India, significantly, Nilekani’s response to the notion that the database may be used to keep a tab on every Indian, is to say that “India does not really have a privacy law. So all this will act as an impetus to define the privacy framework for Indians” (Roy 2009).

In an interview on the news channel CNN-IBN, Nilekani claimed that the scheme will have a “huge beneficial impact on public services and also on making the poor more inclusive”. He informs us that the core idea behind the UID scheme is to prove  $x$  is  $x$ , i e, that a person is indeed who he or she claims to be. The idea is to ensure that “there are no duplicates taking away the benefits of the government’s social programmes which should reach the right people”. Regarding identifying the missing  $x$ s, so to speak, namely, the people who are not included in any system and perhaps the most in need of the government’s social benefit programmes, Nilekani is of the view that the system is only an enabler and not a panacea for all problems (*Business Standard* 2009).

Theodore Porter, giving the example of the US Census Bureau, points out that who is to be included and who is not (to be included in the system) is anything but politically neutral. In fact, the entire process of counting and quantifying is not innocent of politics as are the methods used to gather the data as well as the expertise of the workers and the power relations therein (Porter 2005). In India, the gathering and maintenance of population data traditionally falls under the aegis of the Registrar General of India and the Census Commissioner (under the umbrella of the home ministry). The setting up of the UIDAI and its support by the government could perhaps be indicative of a possible dwindling of power of these bodies. According to the former deputy registrar-general of the Census of India, S P Sharma, a Multi-Purpose National Identification Card (MNIC) pilot project in 13 states or union territories covering 28 lakh people in 2,175 villages and 19 towns has already been carried out, and the home ministry is keen to complete this. The national census due in 2011 will include data for a National Population Register (NPR). The home ministry’s effort and Nilekani’s authority (UIDAI), says Sharma, are working with their own independent thinking and strategy and are a waste of resources. While Nilekani’s authority will prepare its own database by networking with major registers such as National Rural Employment Guarantee Scheme (NREGS), Public Distribution Scheme (PDS) and the Rashtriya Swastha Bima Yojna (RSBY), the home ministry is planning to adopt the NPR. In Sharma’s opinion, the NPR data is more reliable than the data the UIDAI is working with, the number scheme followed by the ministry in allotting unique numbers is more systematic and informative than that followed by the UIDAI which uses randomly generated numbers (Sharma 2009). Perhaps as an attempt to take Sharma’s comments on board, there is a proposal to scan for fingerprints in the 2011 Census (*The Hindu* 2009a), however, the details such as whether the data gathered as part of the NPR will be used in the UID system, the number system used to allot the numbers, etc, is not clear. The promise to roll out the first set of UID numbers by August

or December 2010 seems to contradict its inclusion which can occur only in 2011 (*The Hindu* 2009b).

### The Debt and Information Markets

Though Nilekani’s revenue model, slated to fetch close to Rs 300 crore a year, may help to maintain the system and possibly, recover some or part of the project cost, the real value of the scheme cannot be easily quantified. Most of the commercial partners such as banks and insurance companies are dependent on the debt market (i e, the interest accrued on debt in the form of loans or credit card purchases) so that there is a concerted effort, the war on cash, to inspire people away from cash transactions (Hove 2008: 36-45). However, the move towards debt comes with associated risks as indicated by double digit credit card defaults – some as high as 30% – in recent times (Dharamsi 2009). In order to avoid these high rates, it becomes important to be able to identify and trace defaulting users. While the institutions have databases of their own, what is missing is the mapping between entries in their databases and the actual, existing consumers. Once this is in place, the profiling data is validated and ready for use as a business resource such as identifying and tracing defaulters, pursuing potentially new consumers and so on. The information thus has a certain market value, as indicated by businesses in the US that create detailed financial profiles and that then “sell that information as marketing leads to banks, credit card issuers and mortgage brokers, who fiercely compete to find untapped customers”, this “marketplace for personal data” has played a role in “powering the unrivalled lending machine in the United States”. Europe in comparison has stricter privacy laws restricting the selling of this information. The US information economy has now started offering data that includes attributes like marital status, education history, the kind of car owned and other such profiling attributes that are used to categorise consumers into groups, and use predictive techniques to estimate the likelihood that people will need new debt, sometimes even before they know it themselves (Stone 2008).

**Problem with Technical Solutions**

Nilekani in his book suggests that the benefits of social welfare programmes do not reach the intended audience due to theft and leakage as a result of siphoning off of funds by unscrupulous bureaucrats and corrupt politicians. He suggests a direct benefits model where (based on the UID scheme) the state could directly transfer benefits in the form of cash to bank accounts of eligible citizens (Nilekani 2008: 372-73). The boundary between a “pure” state distinct from its morally suspect bureaucrats and politicians is suspect, since they are both part of the state apparatus. The problem then is one of corruption. Not only of the bureaucracy or politicians but also manifested in the efforts of individuals to acquire multiple identities by providing fake documentation or by bribing concerned officials (London School of Economics (LSE) 2005: 169). Then, again, there are instances of large-scale collusion of officials creating “ghost” employees and distributing their salaries amongst themselves (Dash et al 2009). It appears, then, that the promise of a biometric-based technological system that can function independently of corrupt officials or politicians is the need of the hour. While the promise of this technology for purposes of unique identification is the cornerstone of the project, its infallibility is still under debate. A project proposal for a similar biometric-based identity system was undertaken in the UK. An independent study undertaken by the London School of Economics and Political Science in 2005 to study the feasibility of the project similar found the proposals “too complex, technically unsafe, overly prescriptive and [had] a lack of foundation of public trust and confidence” (LSE 2005: 6). Nilekani admits that a project of this scale has not been successfully implemented before and a lot of technology issues are not yet sorted out, but in his view, the potential benefits outweigh the challenges (Business Standard 2009).

Langdon Winner, seems to offer an explanation of how the social problem of corruption gets transformed to one of “proving that x is x” in the technical sphere. He highlights our increasing dependence on technology and suggests that in order to solve the problems of our times; we turn

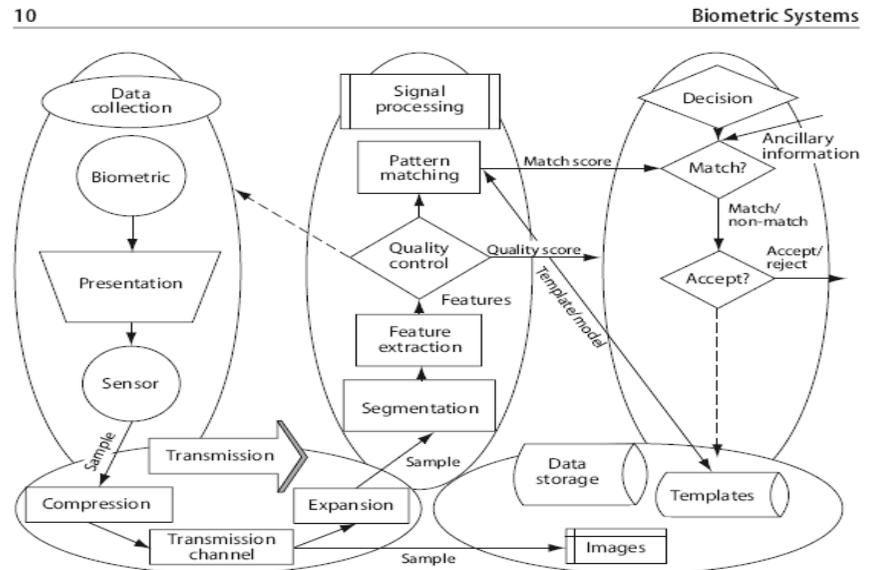
to our areas of strength, namely, science and technology, so there is a tendency to turn to technical solutions for problems that may be political or moral (Winner 1977: 10-17). In this process of finding technical solutions, social/political problems get reinterpreted as technical ones that fit available technical solutions. Thomas Hughes gives the example of the large electric power generating stations built during the first world war (1914-18) to fulfil the unusual wartime needs. Once the war was over, these stations became a “solution in search of a problem”. And there was an effort to maintain in peacetime the “momentum of their wartime planning and nurturing of technology” (Hughes 1983: 286). This ready source of electric power also opened up the possibility of larger concentrations of urban population. It seems then, that even successful implementations of technical solutions which themselves have an associated risk and may pose specific technical challenges, may well leave the original problem unaddressed or only partially addressed. Examples of this in our own cultural/geographical context range

the hands of skilled experts can provide magical solutions to social problems but are inherently political processes that can open up newer possibilities just as they can close or hinder others. In the case of biometric systems, there have been triumphant claims that technology in question has been responsible for ferreting out corruption and saving taxpayers money (Bhasin 2009). It would seem that the same would be well within the purview of – and might come to light through – a regular, periodic audit. To expect any technological system, biometric or otherwise to function efficiently in the absence of review and audit processes is unrealistic, by the same token, having these processes in place then becomes important, whatever the technology in use.

**Biometric Systems**

While there may be broad patterns common to technological systems, there are distinct and specific aspects of each technology that need to be considered. An in-depth study and analysis of biometric systems is outside the scope of this writing, however,

Figure 1: A Generic Biometric System



Source: Wyman et al (2005).

from the industrialisation efforts and “Green revolution” of earlier decades to the telecom and IT revolutions of more recent times. While the success or failure of these efforts in addressing issues of unemployment, poverty, hunger, education and communication may be debated, it is suggested that technologies are not a magic wand that in

taking a quick peak inside the black box of the technology may be helpful in overcoming an inclination to view it as a monolithic system offering a perfect solution (Winner 2003: 235).

Biometrics has been defined as “the science of establishing the identity of an individual based on the physical, chemical

or behavioural attributes of the person” (Jain et al 2008: 1). Another text clarifies that “all of the measures used contain both physiological and behavioural components, both of which can vary widely or be quite similar across a population of individuals”. While each biometric trait (fingerprinting, iris recognition, face recognition and voice recognition) is different and has specific characteristics, each of them must have the characteristics of being (a) robust or unchanging in an individual over time, (b) distinctive or showing variability over a population, (c) available – implying that the entire population should have the characteristic in multiples, (d) accessible or easy to record electronically, and (e) acceptable – suggesting that it should be acceptable to people in general (Wyman et al 2005: 1-6).

In general biometric systems perform the operations of data collection, transmission, signal processing, decision-making and data storage (Wyman et al 2005: 9).

A schematic diagram of these main sub-systems is shown in Figure 1 (p 34).

While these are the broad characteristics and the processes within biometric systems, the objective of listing them here and showing the schematic diagram is to indicate that these are non-trivial systems requiring appropriate training and careful monitoring for effective use. Certain performance measures (Figure 2) have been defined for biometric systems. These are described below:

- False Accept Rate (FAR): The fraction of impostor scores exceeding the threshold factor ( $n$ ). Also called Type-I error.
- False Reject Rate (FRR): The fraction of genuine matches following below the threshold factor ( $n$ ). Also called Type-II error.
- Failure to Acquire (FTA): Denotes the proportion of times a biometric device fails to capture a sample.
- Failure to Enrol (FTE): Denotes the proportion of users that cannot be successfully enrolled in the system.

It is to be noted that a biometric system rarely encounters a perfect match. This is due to imperfect sensing conditions, alterations in the user’s biometric characteristics, changes in ambient conditions, and variations in the user’s interaction with the sensor. In fact, a perfect match between two feature sets is cause for concern as it is

indicative of an attack against the system (Jain et al 2008: 8-10). Since there is almost never a perfect match but only a probabilistic quantification of the match (perfect match implying a 100% match between the template recorded during data collection and the sample submitted for the match), the threshold factor in the FAR and FRR above plays an important role, if it is reduced there are more chances of a match, in fact there may well be multiple matches for certain cases. This is the reason why a reduction in the FAR generally implies an increase in the FRR so the two cannot be reduced simultaneously. It would appear then that there needs to be a policy to be followed at every stage of the process from capture to decision-making. Regarding the storage of the data itself, there are several issues to be considered, for instance there is a trade-off between data redundancy and security. Data redundancy is having more than one copy of the same data – for example, name, father’s name, address, etc. Security is the risk of the data being available to unauthorised personnel. In effect this means that the more interfaces the UID database has with other external systems such as the PAN card system, voter id, or even banking systems, driving licences, etc, the more vulnerable it is. Having fewer interfaces on the other hand implies having multiple and possibly conflicting copies of the same data. The LSE “Identity Report” albeit in the context of the proposed system in the UK finds the security of the system “substantially – perhaps fatally – flawed. Some of the reasons quoted for this are the volume of data (50-60 million people), the number of enrolment centres and the number of staff required. In the case of India – with a number of people in the database equalling 10 times that number (600 million) and with a larger more diverse geographical area, it would be safe to assume a higher security risk.

### Technological Systems and Society

Large technological networks such as the UID scheme are increasingly being seen as assemblages of people, technological objects or artefacts and processes in the

Figure 2: Biometric Traits

	 Fingerprint	 Face	 Iris	 Voice
Distinctiveness	High	Low	High	Low
Permanence	High	Medium	High	Low
How well trait can be sensed	Medium	High	Medium	Medium
Speed and cost efficiency of system	High	Low	High	Low
Willingness of people to have trait used	Medium	High	Low	High
Difficulty of spoofing the trait	High	Low	High	Low
False reject rate*	0.4%	1.0-2.5%	1.1-1.4%	5-10%
False accept rate*	0.1%	0.1%	0.1%	2-5%

\* Error rates depend on testing environment, sensors used and composition of users in the population.  
Source: Jain and Pankanti (2008).

broad rubric of STS (Science, Technology and Society Studies). Among the earlier writers in the field, Jacques Ellul, while making the case for a technologically determined society sees method or technique (Greek: *Techne*) an integral part of technological systems, all of these systems or networks, a “summation of techniques” taken together determine what we know as contemporary “technological” society (Ellul 2003: 182-85). Others, such as Trevor Pinch and Wiebe Bijker argue that technological systems are socially constructed. Its artefacts, they say, represent different problems and solutions for varied social groups who give different meaning to them. The different voices of varied groups then have varying degrees of influence on the shaping of technology (Kline et al in 1999: 113-14). Thomas Hughes, suggests a combination of technological determinism and social shaping of technologies. Apart from purely technical or economic factors, the exercise of institutionalised political power, he says, plays a role in the development of technologies. Technologies also exert a reverse influence on society by needing and in some sense, producing an operating environment to function in. Once it gathers momentum, its production, training and research functions get institutionalised and it acquires an existence of its own. As the usage of the technology becomes widespread, it permeates into everyday practice (Hughes 1983: 106-40).

Extending the social construction notion to the identification and articulation of problems, it seems that different social groups may well experience the same situation

differently, both in terms of the problems they face and the importance they give to them. A group with a relatively lesser degree of influence will thus end up having their problem addressed only partially or not all. Thomas Hughes, in his turn, seems to suggest that when technology use becomes widespread, it changes the manner in which people interact with each other effecting not just personal relationships but also how institutions function and how business is done. Richard Sclove, defines social structures as the “background features such as laws, political and economic institutions and systems of cultural beliefs that help define or regulate patterns of human interaction, by helping to define or regulate patterns of behaviour”. Since technologies help to “regulate and define behaviour patterns” argues Sclove, they are akin to social structures that work towards consolidating certain relationships and power equations (Sclove 1995: 1-2).

In the case of the UID scheme, given the paucity of available details and the pre-determined basic design of the system, one may infer that the influence of the system on habits and patterns of behaviour would outweigh the possible influence of social factors in shaping the system. Bruno Latour, suggests approaching technological systems as an interactive assemblage of both human and non-human actors. In Latour’s opinion, there is no “society” or “social order”, or “social dimension” distinct from a biological, legal, scientific or economic dimension. There are no clearly marked divisions between domains, aberrations to which are explained by the influence of “social influences”. Indeed, according to Latour, there is no social context “out there” within which non-social activities take place. A blurring of boundaries between the technical and the social, the economic and the political, points the way to a somewhat different assemblage of the system under consideration. This may also point to the opening up of newer perspectives in how the relationship between technology and society may be approached (Latour 2005: 5).

## Conclusions

Undoubtedly, the UID scheme, as correctly pointed out by Anant Mariganati, opens up several possibilities for both governance

issues and market logic. Despite these seemingly elastic potentialities in the manner in which power can be shaped by being able to pinpoint with relative accuracy that x is D, the UID scheme can be read as indicating several sharp though problematic shifts as well. Notably, the apparatuses of state are now not expected to be posed as a radical contrast to the market but rather as a node point bearing citizen data and therefore capable of operating as a facilitator and mediator of market information. Secondly, the idea of citizenship is now capable of being defined as an exclusive one: the dominance of the debt legible consumer citizen as opposed to the relatively more inclusive idea of the political citizen. However, at the technical level the debate over the UID is far from over. Questions such as the instabilities in biometrics as a technology, the unprecedented scale of the project and the possibility for human error in monitoring and storing such data make the UID scheme very much an open-ended challenge.

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