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**Futures in the Making:
Contemporary Practices and Sociological Challenges**

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Abstract

The paper explores sociological approaches to the future from early beginnings of the discipline to the present. It uses Max Weber's methodological writings on futurity to focus the discussion on some of the central tensions and difficulties that arise when sociologists engage with the 'not yet'. The paper thus begins to open up issues for consideration and debate and makes a case for the need take the temporal extension of contemporary society to the heart of sociological inquiry, that is, to seriously engage with the social future.

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Futures in the Making: Contemporary Practices and Sociological Challenges

Introduction

Sociologists study the contemporary social world of which they are an integral part. Conventionally, this social world was conceived within cultural or national boundaries. More recently the rationale for this analytical bounding has been questioned as more and more social processes began to span the globe. In the light of globalisation, the social has been opened up to encompass worldwide processes and institutions. This stretched our conceptual and methodological but there is no barrier in principle to expanding the spatial and material sociological vision. The study of globalisation, cosmopolitanisation, global governance structures, or the global network society is well within the capabilities of the classical canon and the conventional tools of the sociological tradition. The socio-temporal equivalent of this spatial expansion, in contrast, has not yet found its way into the mainstream of sociological inquiry. A 'Sociology of the Future' has not yet been established despite the substantial temporal extensions of social activities at every level of social organisation.

Futures are created continuously, across the world, every second of the day. They are produced by the breadth of social institutions: politics, law and the economy, science, medicine and technology, education and religion. They are constituted at the level of the individual, the family, social groups, companies and nations. These created futures extend temporally from the very short to the extremely long-term and spatially from the local to the regional, national, international and global. Moreover, much of today's social world encompasses not just social relations, institutions and social structures but also the natural environment. In its futurity much of this world is not material in the conventional sense but marked by latency and immanence. It is a world of deeds under way that have not yet materialised as symptoms, not yet congealed into matter. It is the future of processes – chemical, nuclear, biological, genetic, fiscal and political to name just a few. These are set in motion by socio-political, legal, scientific, economic and everyday performative, enacting practices. The actions and processes associated with this 'future in the making' are ongoing, producing layers and layers upon layers of past and present futures as well as future presents and pasts.

While ever-expanding futures are created by scientific, medical, political and economic practices, the sciences charged to explain that social world continue to focus on society's spatial extension. The implicit understanding prevails that the study of society is conducted in the now or the extended now. Responsibility for the study of futures had been abdicated long ago to futurologists who, in the public perception if not their own, are primarily interested to develop increasingly sophisticated tools to forecast and model the future. This sociological neglect of the social future as subject matter has created a black hole of knowledge and concern about a core problem of the heart of the contemporary social condition. I am referring to the crucial disjuncture between the seemingly unbounded capacity to produce futures that can extend over thousands of years, the lack of knowledge about potential outcomes and impacts of these creations and the socio-political inability and/or unwillingness to take responsibility for the futures of our making. This disjuncture of action, knowledge and responsibility is in urgent need of our attention. The task is clearly not an easy one.

By definition ‘futures’ have not yet emerged as (present) phenomena and symptoms. As the ‘not yet’ futures lack reality status and are not amenable to empirical study. But does this necessarily place them outside the domain of sociological competence? Does their potentiality make the creation of socio-cultural and socio-environmental futures an exclusively political problem or is social futurity also a central subject for sociological inquiry? What might be involved in social investigations that are temporally extended into the future? What would be studied by a ‘Sociology of the Future’? And, is sociology equipped conceptually and methodologically to deal with a temporal extension?

In this paper I look at the way social scientists have approached the social future and with broad brush-strokes paint a picture that takes us from early beginnings of the discipline to the present. I am particularly interested in questions of methodology and use Max Weber’s methodological writings on futurity to focus the discussion on some of the central tensions and difficulties that arise when sociologists engage with the ‘not yet’. I thus begin to open up the issues for consideration and debate in order to present, what I hope is a persuasive case for the need of a collective effort to bring sociology up to date with the temporal expansion of our contemporary world, that is, to engage with the social future.

Historical Overview of Sociological Approaches to the Future

Historically, concern with the future is to be found at the very beginning of the social science enterprise and of sociology as an independent academic discipline. This early social science interest in the future was closely tied to industrialisation and the periods of intense political turmoil between the middle of the eighteenth and the nineteenth centuries. With the rise of scientific knowledge and the socio-economic capacity to apply a rational calculus to ever widening spheres of social life, the future ceased to be the exclusive domain of God and increasingly became pulled into the orbit of social action and concern¹. The change in knowledge brought with it a change in practice that facilitated a new dynamics of change with people increasingly able to transcend the socio-economic present and impose their will on both the personal and collective future. The future was therefore no longer a mere continuation of the past but became increasingly a consequence of actions in the present. This was nowhere more apparent than in France during the period from the middle of the eighteenth to the middle of the nineteenth century. Accordingly it was the key social thinkers of France that spearheaded a form of social science that would help to bring about the desired new world.

In his book ‘The Prophets of Paris’ historian Frank E. Manuel (1962) describes Turgot, Condorcet, Saint-Simon, Fourier and Comte as thinkers and social commentators with a social mission. All, he suggests, were concerned not just to ‘unveil’ the future but also to steer it in a particular direction.

They were intoxicated with the future: they looked into what was about to be and they found it good. The past was a mere prologue and the present a spiritual and moral, even a physical, burden which at times was well nigh unendurable. They would destroy the present as fast as possible in order to usher in the longed-for future, to hasten the end. (Manuel 1962: 6)

With France in socio-political turmoil, these ‘prophets’ sought to contribute to the cumulative effects of innovation, to aid progress and to help facilitate a climate of

openness for novelty and change. Despite the one hundred years span of their intellectual and political activities these thinkers shared a number of key assumptions and concerns. Each one placed politics low on their list of significant agents for change and focused instead on the role of science and technology, morality, aesthetics and spirituality. They put their faith not in revolution but in the perfectibility of human beings, the power of reason, tolerance, love and brotherhood. Most importantly, they saw themselves as moral agents for change, labouring for posterity and a better future of disadvantaged groups of society. Not one of them saw a contradiction between their commitment to science as the path to truth and their normative engagement in the active production of futures they prophesised.

From a different thought tradition and political context Karl Marx too sought not merely to interpret but to change the world. As he insisted in his Theses XI on Feuerbach, 'philosophers have only interpreted the world, in various ways; the point is to change it' (McLellan ed. 1977: 158). While Marx did not rate very highly the work of his French predecessors, he nevertheless took a similar stance regarding his commitment to science on the one hand and the prophetic normative approach to the future on the other. Like the French social thinkers before him, Marx provided visions of how the world could (and should) be different from its present alienated form and identified paths that would lead to the utopian ideal he constructed. Whether or not it was explicitly argued in those terms, in Marx's work, like that of the 'Prophets of Paris' (Manuel 1962), social theory was indissolubly tied to practice, interpretation to normative conduct, science to politics, and prophecy to product. What early French social thinkers and Karl Marx held in common, therefore, was a commitment to make the world a better place. They wanted to identify *and* shape their history in the making. They were concerned not just to foresee and unveil the future but also to help usher it in and steer it in a particular direction. All viewed themselves as future makers and placed their faith in the power of reason and science as means to achieve their desired visions.

This explicitly activist, future oriented approach to social analysis came to an end with the normative science of Marx and was replaced by the more objectivist social science of Durkheim and Parsons on the one hand and the interpretive emphasis in the work of Weber and the Symbolic Interactionists on the other. While the objectivist mode of sociological investigation prohibited the normative stance and thus militated against promotion of specific futures, the interpretative perspective prioritised the past and present as sources of understanding and the creation of meaningⁱⁱ. Alternatively, interpretative investigations were conducted in the de-temporalised, synchronic realm of meaning and social rulesⁱⁱⁱ. Thus, with the focus on 'function', 'structure' and 'meaning', concern with the future went out of sociological favour until the 1960s when a renewed interest in the future began to flourish.

During the 1960 in western sociological circles there re-emerged an explicit and intense engagement with the future. In the US this turned into a serious commitment to post-Parsonian sociology that extended over a period of twenty years and more. In the UK and continental Europe scientists from across the full range of social sciences received funding from their respective Research Councils to think about the future and to establish the social sciences' contribution to that central aspect of social existence^{iv}. While much of the UK's social scientists' work on the future was primarily concerned with the production of better forecasts and methods for foresight,

that is, with improving ways of looking *into* the future, a number of their US counterparts sought to make the engagement with the future central to the sociological enterprise, that is, to adjust its focus and method to a social world for which the orientation to the future was at the core of social activity. In this paper I will concentrate my efforts on approaches that looked not *into* but *at* the future^v.

The US social context for this re-emergence of sociological concern with the future was the Vietnam War and the technological promise of space travel, computers and nuclear power. The emergent ‘Sociology of the Future’^{vi} provided an approach to analysing social reality as well as a way of directing social processes. It was focused on the study of possible futures that included values and responsibility and it entailed an action orientation that combined description, analysis, critique and a normative stance. As such, it included efforts to create a better world and required from social scientists visions, images and utopias of the ‘good life’. It explicitly accepted the constitutive nature of knowledge thus produced, and saw sociologists as part of (rather than external to) the reality they studied. Like their French predecessors, the sociologists of the future conceived of themselves as ‘future makers’. As such they took on board their responsibility as participants and creators of reality and saw the task of sociology as engagement with purposes, planning and policy, in other words, with social engineering.

Methodologically the American version of the ‘Sociology of the Future’ entailed a focus on not only what *is* but also on what society *could* or *ought* to be. It was concerned with social values, their achievements and their consequences. It emphasised dynamics, emergence and change. As such it left behind much of conventional scientific beliefs in objectivity, value neutrality and scientific detachment without, however, letting go of some of the principle assumptions that underpin the scientific study of reality, as well as belief in progress and trust in scientific control. Furthermore, and in agreement with George Herbert Mead’s (1980/1932) analysis of the reality status of the social future, they considered the future to be real only in the present and thus conceived of both past and future as the ideational spheres of memory and anticipation. At the same time, however, they insisted that there was an irreducible difference between past and future, which had significant implications for social science study: ‘There are no past possibilities and there are no future facts’ (Brumbaugh 1966:649; Bell and Mau 1971: 9).

This meant that the study of the ‘not yet’ could only be approached from the standpoint of the present. To research prospective and projective, that is, ideational aspects of social life required investigation of images on the one hand and the production of predictions of the possible on the other. Waskow (1969) defined the latter as the study of ‘possidiction’. For the study of images (individual and collective), visions were conceived as orientations to action in the present and considered to be facts that could be tested against future events. ‘Possidictions’, in contrast, were seen as the search for real possibilities, that were amenable to planning, projection and activation in the present. Values were central to this enterprise in which social scientists thought of themselves as agents for change, and engaged in future making and social engineering for betterment of the human condition. This meant sociologists of the future viewed themselves not as mere tools but judges of ends to which their knowledge will be put. They therefore reflected not only on the complexity of their future oriented subject matter but also on the impact their

proposed approach would have on both the world they studied and the role of the social investigator. They recognised that attached to the capacity to create and control futures comes the burden of responsibility. As I will argue below, however, as long as the reality status of the future was denied and reality exclusively confined to the present it was actually impossible to transform this recognition of responsibility into practice.

With renewed socio-political emphasis on evidence-based science, this 20th century wave of interest in the projective realm has ebbed once more and for another two decades the future ceased to be a legitimate topic for social theory and sociological investigation. Funding for sociological research reverted to subject matters that were considered to be grounded in ‘fact’ and deemed to be socially useful. Thus, with the next objectivist turn the future as empirically problematic realm of the ‘not yet’ once more lost its attractiveness as both object of study and potential subject for normative intervention. With the revitalised commitment to positivist social science, responsibility for the study of this social domain of the future had been abdicated to futurologists and foresight experts in business. Until recently, therefore, the discipline charged to explain our social world was once more silent on this key aspect of social life. It bracketed this part of social existence and relegated it to the shadow realm of the disattended. Sociologists who continued to pursue the social future as the subject matter of their choice found themselves drawn to futurist networks as their intellectual homes^{vii}.

During the past two decades, interest in the future was once more re-kindled on a number of fronts within sociology. It became important for socio-environmental efforts towards a more sustainable mode of social existence. In addition, it became pertinent to socio-political engagements with the precautionary principle. These developments focused sociological attention on social and socio-environmental issues that were extended across time and space, often producing unpredictable, long-term outcomes (Adam 1998a, Adam et al. eds. 2000, Beck 1992 and 1999). While not explicitly concerned with the social future, some of that work’s central concepts, such as risks, hazards, uncertainty, indeterminacy, reflexivity and unintended consequences indicate an engagement with the outer edges of the extended present. Moreover, this work opened for sociological investigation the difficult subject of ignorance and non-knowledge as products of scientific, political and economic rationality, calculation and control (Adam 2004b and 2005a, Beck and May 2001, Bösch and Wehling 2004, Ravetz 1987, Wehling 2001, Wynne 2005). Thus, towards the end of the last century the future is once more emerging as a pertinent subject for sociological inquiry. Furthermore, some of these contemporary approaches, including my own, seek to address the future not just as the *present* future but as *future* presents and are concerned to comment on and critique emergent future practices and socio-technical futures in the making.

On a different front, futurity was taken up in Science and Technology Studies when it was recognised that expectations of outcomes played an important role in the reception, up-take and legitimation of scientific and technological innovations. Arising from insights of this field of sociological investigation, a network of researchers was formed under the banner of ‘Sociology of Expectation’. What they identified is both a performative element of expectation and an inseparable tie between expectations, anticipatory action and agency (Brown et al. eds. 2000; Brown

2003; Brown et al. 2003; Brown et al. 2005). Until this recent work on the sociology of expectation, writing on the social future had emphasised the mind-based nature of social futurity, that is, its association with imagination (present futures) and memory (past futures). Alternatively, it focused attention on prediction (looking *into* the future) and ‘possidiction’ (looking *at* the future). All these approaches are tied to theory and conjecture. Through efforts to track the dynamics of expectation, the mind-based approach to futurity has been complemented by an understanding that emphasises the materiality of future orientation. That is to say, there is a recognition that intense expectation mobilises resources, produces incentives, creates chains of obligations, silences (or at least sidelines) dissenting voices, justifies certain actions in preference of others and produces new networks. This renewed sensitivity to the socially constituted future, however, has not yet spawned a new Sociology of the Future. In a way this is not surprising since, when sociologists focus on the future they are drawn into a range of methodological and conceptual dilemmas that reach deep into the very foundations of the discipline. In the following section of the paper I would like to open up some of these for debate and revisit Max Weber’s methodological writings to focus the discussion.

Methodological Challenges

The methodological challenges that arise when sociologists explicitly engage with the social future confront unwary investigators at two different levels, that is, of empirical investigation and theory. At the level of empirical research the difficulties are concerned with the tensions between objectivity and normativity, between past, present and future-based positions from which the investigations are conducted and between the future associated with either mind or matter. Thus, for example, despite the passionate and far-reaching efforts of sociologists of the future to re-orient the discipline, their approach left unresolved a number of the contradictions that arose between the positivist and normative stances on the one hand and between the future as an aspect of mind and as potential material reality on the other^{viii}. Some of these dilemmas re-emerged with the contemporary ‘Sociology of Expectation’; others were resolved and in the process new ones came to the surface^{ix}. At the level of theory the conceptual difficulties are rooted deep in the very core of the discipline’s unquestioned base assumptions. To take the future seriously therefore requires fundamental revision of those primary assumptions. In this section of the paper I would like to open up some of these issues for consideration.

The ‘Sociology of Expectation’ shows much promise as a contemporary sociological approach to the future that takes seriously the materiality, and multiple modalities involved. The work stresses materiality, performativity, layeredness, rhythmicity and interpenetration of past, present and future in expectation. However, when we bring to the fore, its largely implicit approach to the future, some pertinent methodological tensions become visible. Anchored in the empirical tradition of Science and Technology Studies, the ‘Sociology of Expectation’ has inevitable problems with the future as the empirically inaccessible realm of the ‘not yet’. It must investigate the future from the position of the present with all the dilemmas that arise with inferred or reported ‘unobservable’ futurity. Moreover, it leaves unresolved some pertinent methodological questions about the study of futurity. Whilst stressing ‘layeredness’, it does not address the question how this recognition translates into empirical investigations of the interpenetration and distinctiveness of present futures, future

presents, past futures and future pasts. Whilst acknowledging materiality, it sidesteps the issue whether or not futurity and the 'not yet' can be studied in any form other than an ideational sphere, that is, as memories of past expectations on the one hand, and historical accounts of change in public, organisational and private expectations of innovative technologies on the other. Or, to put it differently, does the future need to become present or past before it can be studied? Or, differently again, is the Sociology of Expectation's look at the future in fact a look at the *present* and the *past* in the form of present futures and past futures? It leaves un-addressed the question how the contradiction is reconciled between 'the future as a temporal abstraction that is constructed and managed' in the present (Brown et al. 2000: 4) and insistence on the interplay of practice, materiality and embodiment, which is by definition temporally extended and layered into the realm of the 'not yet', as the future 'under way', 'in progress', 'in the making'. Finally, it seems to avoid confrontation with questions about the role of the investigator, that is, a) how investigators committed to a constructivist and critical position on science and technology can avoid a normative stance and b) how investigators can disentangle themselves from their own professional expectations, which influence why they do, what they do and how they go about doing it. Methodological problems arise when recognition that investigators cannot put themselves 'outside the world of expectations' (Brown et al. 2005: 3) is placed alongside explicit efforts to avoid a normative stance. (Brown et al. 2005; Brown 2003: 18; Brown et al. 2003: 5).

At beginning of 20th century Max Weber addressed some of these and associated questions for the social sciences in his methodological writings^x. It is therefore worth our while to briefly re-visit this work and bring to the surface the dilemmas encountered by social science engagement with human futurity, as this helps us to better focus the issues for discussion and debate. Weber considered futurity from three different angles of social analysis: the subject matter, the social investigator and the method of inquiry. Since humans cannot escape their futurity, he argued, futurity is *de facto* the proper subject matter of the social sciences. Equally, since social scientists as humans cannot escape their own futurity, this futurity too needs their attention. Regarding the method of enquiry he showed that the logic of science makes the study of human futurity a hazardous and most difficult endeavour.

With respect to the futurity of the subject matter of the social sciences, Weber pointed out that all we do is future oriented. At the micro level we choose between options, allow values and beliefs to guide action, decide on the most appropriate means to ends, behave rationally and act with commitment. At the macro level modernity is marked by belief in progress and the pursuit of innovation, which in turn creates not just instability and fluidity but also incessant obsolescence. Modernity is secondly characterised by rationality, which renders in principle (if not in practice) everything calculable and knowable by experts, who inhabit niches of specialist knowledge. In addition Weber acknowledged a dual orientation to the future: being *oriented towards* the future and *guided by* it for action in the present. The two ways entail different time orientations and subject positions with respect to the present and future. The formers' vantage point is the present extending towards the future while the latter's direction works from the future to the present. This dual futurity, he suggested, permeates all levels of social existence.

While futurity constitutes an inescapable aspect of the subject matter of the social sciences it poses problems when scientific methods are applied to the study of that subject matter. That is to say, as a *science* the social sciences are bound to the logic of science: to empirical investigation of the present, non-evaluative knowledge and projections based on past experience. As a *cultural* enterprise they have to square the circle of studying the (future-based and future-creating) realm of ideas, values, goals and purposes with tools designed for the study of objects in motion where the future is irrelevant. It is therefore important to understand fully the kind of futurity that is accessible to the scientific mode of inquiry. Staying within the logic of science investigations, a number of important aspects of futurity are amenable to empirical investigation and it is these that have been fully utilised by sociologists of the future and sociologists of expectation. As scientists, researchers can establish means to existing ends, show the advantage of some means over others, calculate the various costs involved, assess the internal consistency between ends, and calculate probable outcomes of present actions. As such, the scientific method cannot only aid social control but it can also help to clarify methods of thinking and identify the nature of ideas and assumptions.

The logic of science does not, however, permit social scientists to comment on these ideas being right or wrong, good or bad. As Weber pointed out, answers to questions about how the world *ought* to be are not in the gift of an empirical science. Its logic excludes evaluations, beliefs and ideals from its method of investigation. This point too resonates with contemporary efforts to be mindful of the boundaries between objective and normative approaches to the study of the social. Yet, Weber was also at pains to point out that, in contrast to the physical sciences, cultural inquiries need to take account of individually pursued purposes, ideals, expectations and beliefs as well as socially constituted values, rules and moral codes. Socio-cultural futurity, Weber therefore concluded, requires a subject-specific mode of enquiry, which is fundamentally different from the study of (physical) objects in motion. Since the future is not an empirically accessible sense datum, Weber proposed the construction of 'ideal types' (stereotypes) against which actual events and purposive, prospective activities could be plotted and compared. The construction of ideal types allowed him to conceive of future presents and it admitted teleological explanation for the social sciences^{xi}. Whether or not the 'ideal type' is the most appropriate tool for studying contemporary futurity is an open question, but that the contemporary socially constituted future needs subject specific tools of investigation, of that I am wholeheartedly convinced.

While *present* futures are the subject matter of the two empirically based approaches to the future outlined above, Weber encompassed both *present* futures and *future* presents in his methodology, a central distinction that has been elaborated some thirty years ago by Niklas Luhmann (1982: 278). This difference in orientation between *present futures* and *future presents* is of great importance for social analyses of contemporary socio-environmental processes where futures are underway but have not yet congealed into matter. Finding ways to engage with and study *future presents*, I want to argue, is one of the more urgent contemporary tasks for sociologists.

Weber's thoughts on the study of futurity did not end with his discussions on the subject matter and methods of the social sciences. Rather, he argued in addition that

investigators' futurity too needed to become part of the methodological innovation. As *scientists*, Weber insisted, social investigators are bound to the logic of science. As *cultural* beings they are future-creating and future guided in their actions. They make judgements about right and wrong, good and evil and analyse social phenomena in terms of their 'cultural significance', which in turn presupposes a value orientation. As *scientists* they cannot escape the need for innovation and progress. As *cultural* beings they are guided by value relevance, moral concerns and questions about how we should live and what innovations are intended for. While the logic of science prevents social investigators to address such questions, it does empower them to acknowledge that their object of study is defined and circumscribed by their questions and methods and requires that they make clear where science ends and their indispensable politics begin^{xiii}. Thus, Weber explicitly acknowledged the methodological dilemmas that arise with investigations of social futures where both subject matter and investigators are future oriented and future bound whilst the logic of the method is firmly past- and present based.

When we open up the methodological discussion to include matters of theory then we quickly recognise that future presents and futures in the making are not only proving inaccessible to empirical study but are also posing a major challenge at the conceptual level. Some of our most basic assumptions and distinctions work against serious engagement with this aspect of social futurity. They shape and frame our world in a particular way. Thus, how we understand facts, materiality, the ideational realm and causality, for example, are deeply implicated in the difficulty. Let me explain.

Facts are tied to specific ways of knowing, that is, to object thinking and an emphasis on the spatial and material. Object thinking brackets and thus conceals the temporal and invisible, the immaterial and unbounded in the subject matter. It negates temporal becoming, creativity and ongoing transformation, which are key characteristics of life and social activity. Social facts can be facts only after they have been de-temporalised, that is, abstracted from the ongoing temporality of being-becoming and detached from their inherent temporal extension. This means that object thinking allows 'observers' to see only time slices, facts as freeze-frames and moments frozen in time and space. Clearly, social facts are not bounded in and of themselves: we make them so in order to render the temporality of our social reality accessible and manageable, that is, to infuse the infinite, transient and contingent complexity of social life with clarity and simplicity. As such, this a-temporal stance on temporally extended social 'facts' facilitates not only counting, measurement and classification but also the illusion of control on the one hand and 'objectivity' and 'ethical neutrality' on the other.

In our principle classifications the world of ideas is separated from the sphere of facts, the realm of mind from that matter. However, enacted ideas have socio-physical consequences, whence they become facts. Some enacted ideas may take on material form quite quickly, others, such as effects from hormone-disrupting chemicals, smoking or low-level radiation, may not materialise as symptoms for a very long time. Where impacts are time-space distantiated, this socio-environmental 'future in the making' needs to be recognised as both material reality and latent process-world of an encoded, invisible kind beyond the reach of our senses and linear causal connections. To re-centre the temporal and to make futurity explicit, therefore, is to emphasise not merely the world of social products but, equally, to stress the

importance of the immanent, the process world beyond empirical access that is nevertheless real in its processuality and consequences. Against the assertion of sociologists of the future that ‘there are no future facts’ (Brumbaugh 1966:649; Bell and Mau 1971: 9) we need to consider that there is an ‘immaterial future real’. This requires a new sense of ‘facticity’, one that undermines conventional dualisms of facts and ideas, the world of things and products that are empirically accessible in the present and the ideational world of values and purpose that elude such access due to their futurity^{xiii}.

By associating the future and futurity with the ideational sphere, sociology relegates this central domain of social life to the realm of the immaterial and thus renders it unreal. That is to say, from the conventional materialist perspective any potential, latent, immanent and thus invisible impact is *immaterial* because it is not empirically ‘real’, not a ‘fact’ and therefore of ‘no material consequence’. To restrict human futurity to the ideational domain of human purpose, therefore, means that we lose sight of the other side of cultural futures: that we *create* futures that are as difficult to access for the social sciences as the futures that guide our actions. In their latency and immanence these ‘futures in the making’, these deeds under way, are conventionally denied reality status until they materialise as symptoms. We need to find ways to encompass this cultural future not just as the realm of predictable knowledge based on past experience (ours and that of science), not just in terms of known goals and values but, equally, in terms of futures that we thereby create: expected and unexpected, intended and unintended, material and immanent, latent and potential, unknown and unknowable. Dualistic categories of mind and matter, ideas and facts are clearly inappropriate to that task.

Equally problematic is the way we understand causality. As a social *science* we deal with causal chains and ask ‘how’? questions. We seek answers to *how* the present and the future arise from preceding events, that is, the past. To explain the present, and by extension the future, on the basis of the past has the advantage that it brings certainty to what might otherwise be thought of as uncertain relations. From a known past we can project the future as trend and probability. There is, however, another, much older way of explaining causal relations, which dates back to Greek Antiquity and the work of Aristotle. This alternative way to understand causality is grounded in ‘why?’ questions. Why questions are predominantly focused on the future. They are associated with what is known as final causes or teleological explanation. This way of understanding temporal relations is directed to human purposes, goals, expectations, value orientations and responsibility. Here the future is regarded to be the ‘cause’ of the present and the temporal flow moves in the opposite direction from that of scientific causality, that is, from the future to the present. With causality that emanates from the future, the certainty gained through past-based causality evaporates. Choice, freedom, morality and the human capacity to act in the light of new knowledge make future-based causes irreducibly uncertain, indeterminate even. In the world of future-based causality, therefore, conventional scientific and political quests for control become inappropriate. Other quests come to the fore. Questions of ethics and aesthetics are given room to flourish. Thus, when the temporal silences begin to get expressed and the invisible is given form, reality begins to resonate with the immanent process-world beyond empirical accessibility. Veracity and ‘the real’ are no longer exclusively associated the visual and material. Facts and values take on a different hue.

When sociologists intend to use the different knowledge traditions on futurity to complement each other, they need to be conscious of the differences between them and utilise the associated conceptual tools accordingly. For social scientists who not merely want to describe the world but critique and help to change it, there is a need to bring to the surface these differences as precondition to identifying and showing potential openings for social change. Only with teleological causality is it possible for sociologists to extend themselves into the future, not just for the purpose of taking account of values, goals and aspirations, but, more importantly, to place themselves in the future and to view the present from that perspective. Only with this understanding of temporal relations is it possible to produce critiques of contemporary socio-environmental and techno-scientific creations. Only from a perspective that encompasses all the modulations of futures – future presents and present futures, past futures and future pasts - is it possible to take responsibility for the (often unknown) outcomes of actions, can we take seriously Hans Jonas' (1984/1979: 129) proposal that 'duty springs from the deed already under way' as well as his suggestion that social responsibility has to be adequate to the sphere and temporal reach of social influence.

In our globalised world of unbounded networked processes and open futures of our making, an appropriate re-working of our conceptual tools is a challenge for sociology of even greater magnitude than the earlier one addressed by Weber in his methodological writings when he sought to take account of futurity within an empirical mode of enquiry. It is this challenge, which I briefly want to open up for discussion in the last part of this paper.

Challenges for a 21st Century 'Sociology of the Future'

The work of sociologists who engaged with social futures has opened up different paths, each with relevance for the contemporary situation. Early French thinkers infused their respective approaches with a sense of moral duty to assist their contemporaries on the way to a better future. Marx identified roots of the social ills of his time and produced a utopian vision that inspired generations. Weber sought a rigorous mode of social inquiry that could encompass human futurity. Sociologists of the future strove to bring the social future into the fold of mainstream sociology. Sociologists of expectation are striving to encompass in their frames of understanding enacted ideas in their materiality. Each of these efforts to encompass the future is concerned to make their work appropriate to the contemporary condition. The issue of responsibility emerges frequently and even where it is not confronted explicitly, it is never far below the surface. Responsibility is the quest and the dilemma, the guiding motive and the difficulty that had to be bracketed. As long as we conceive of sociology as confronted by a choice between objectivity and normativity, responsibility cannot be handled in a satisfactory manner. We need to appreciate instead that responsibility, like Weber's futurity, needs to be encompassed and embraced at three levels: the subject matter, the social investigator and the methodology. When we explore responsibility in this wider context we can see how the objective-normative opposition becomes inappropriate.

When we start from a position, which accepts that sociological knowledge is constitutive then we also have to recognise that we are implicated as creative

participants in the world we seek to ‘discover’. This means that we cannot plead detachment and have to let go of the illusion of non-involvement. With this recognition the old dualism between objective and normative approaches becomes redundant and the conflict between the social scientist and cultural actor disintegrates. As citizens and creators of knowledge we are inevitably involved and cannot escape our status as future makers. As sociologists it behoves us therefore to be concerned with the potential use and impact of the knowledge we produce and to revisit some very old and respectable questions such as ‘Knowledge for What?’ (Lynd, 1946) and ‘knowledge for whom?’ Oppenheimer’s tortured reflections on his role in the development of the nuclear bomb make salutary reading in support of this point.

When we conceive of our contemporary subject matter as not just spatially but also temporally unbounded, we are confronted with the need to develop new tools for understanding. For the temporally extended social we need to find ways of according reality status to the future in progress, that is, to invisible and latent processes underway. This entails that we understand and theorise contemporary social actions, assumptions and processes together with their impacts and paradoxes. This requires, as I have already indicated, that we unsettle dualistic conceptions of matter and ideas and supplement this understanding by refocusing attention on the socio-environmental world of processes and their products. To date, that which is immaterial was and is considered unreal and therefore not encompassed by scientific evidence, which places it beyond the current realm of socio-political responsibility. With futures in the making relegated to the shadow world of the immaterial and unreal, scientific, technological and economic innovations can be established with impunity and developed in a moral vacuum of structural irresponsibility. As social analysts and commentators we need to foreground this relation and question the particular framing of futures in progress.

Continuing the focus on our subject matter and the issue of responsibility, I would like to propose that many of the most intractable problems of contemporary existence are precisely of the processual, futurig, time-space distantiated kind that fall outside the present-based domain of empirical science. The safe decommissioning of nuclear waste, the regulation of bio-technology and genetic modification of food, the creation of stem-cell and nano-technology products, the international efforts to deal with global warming, ozone depletion, hormone-disrupting chemicals and the cultural extinction of species, are just some of the time-space distantiated process phenomena that are currently recognised as both potential and actual problems. Going by past records of the last century, moreover, there are likely to be many more of these ‘immaterial’ futures that have yet to materialise as symptoms, that is, as scientifically accessible products^{xiv}. In all of these examples, furthermore, the apparent scientific and technological control tends to stand in an inverse relation to the created indeterminacies and the loss of control over time-space distantiated impacts. Where control and mastery fail we inescapably find ourselves in the domain of morals. Again it is up to our analyses to establish connections and relationships that have thus far been bracketed when the issues have been framed from a conventional social science perspective.

New problems require new methods of investigation and new knowledge practices. They need not orthodoxy but new understandings, new conceptualisations and new methods. In the case of ‘futures in the making’, it is clearly not sufficient to treat the

social future as an aspect of mind only or to focus attention exclusively on past and present futures. *'Immaterial real'* futures in the making necessitate a fundamental social science overhaul at both the conceptual and methodological level.

'A new "science" emerges where new problems are pursued by new methods and truths are thereby discovered which open up significant new points of view'. (Weber 1969/1904: 68)

If we allow ourselves to think the unthinkable, investigate the unknowable and re-work conventional normativity from a position of triple responsibility, we will have to do it with tools that are not currently found in our contemporary sociological tool kit.

Sociologists are 'future makers' – that was the assertion and the vision presented by the founders of the social sciences and by the sociologists of the future of the 1960s. The task to develop a 'Sociology of the Future' that is appropriate to the contemporary condition is for us to accomplish. To consider seriously our obligations towards 'futures of our making' requires that we change our sociological understanding not just of the subject matter but also the nature of the discipline and the role of the social scientist from external observer and analyst to implicated facilitator of a more just social world. In this paper I have identified some areas where the challenge of this insight and its implications had been left unfinished and others where it had not yet begun to be addressed. To re-consider this work and apply it to our contemporary context requires a collective effort since all of us are implicated in the socio-environmental futures in progress, challenged to play our part in closing the gap between the relentless production of political, economic, scientific and technological futures, the (non)knowledge of their immanence and impacts and the responsibility for potential time-space distanced outcomes. As future makers, I want to propose, sociologists need to render the invisible visible, make future presents tangible, give form to the 'not yet' and provide analyses that take the future seriously as supreme realm of social practice and transaction.

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ⁱ For historical work that traces this development see Le Goff 1980, for sociological work see Adam 2004b, especially chapter 6.

ⁱⁱ Of course, this is not to argue that Marx and Engels' analyses were exclusively future based whilst positivist and interpretative traditions are predominantly past and present-based. Clearly, much of Marx's analyses are steeped in historical understanding. The point I am making with regard to his approach to the future is to stress his normative use of a utopian vision as guide to social change. Equally, if we were to foreground the functional and structural aspects of Marx's work the temporality would recede in favour of a more de-temporalised social analysis.

ⁱⁱⁱ A notable example of this would be Peter Winch's influential 1958 *The Idea of a Social Science*.

^{iv} Examples of UK work would be Bell 1974, Clarke 1964, Cole et al. 1973, Dumont 1974, Freeman & Jahoda 1978 and Young ed. 1968. See also a list of relevant committees set up to shape the future across the social domains, listed in Young ed. 1968 pp.35-6. An example of North European approaches would be Jungk and Galtung eds. 1969.

^v I am indebted for that distinction for Brown et al. 2000.

^{vi} For analyses of the US Sociology of the Future of the 1960s see Bell and Mau eds. 1971, also Moore 1966 and Toffler 1969.

^{vii} See, for example, writings by Wendell Bell 2002, 2002b and 2005 in *Futures*, the high profile journal of the World Futures Studies Federation.

^{viii} For an extended discussion on the Sociology of the Future, see Adam 2004a

^{ix} For my account of the Sociology of Expectation I have drawn primarily on Brown et al. eds. 2000, Brown 2003, Brown et al. 2003, Brown et al. 2005 and also Miller 1998.

^x For Weber's methodological writings, which address matters concerning human futurity see Weber 1959/1919, 1969/1904, 1969/1917, 1978/1913, 1989/1904-5.

^{xi} This paper is not the appropriate place for it but there is a need to consider the relation and distinction between the heuristic of the 'ideal type' and scenarios.

^{xii} For a more detailed discussion on Weber's approach to the study of human futurity, see Adam 2005b

^{xiii} For a more detailed account of these dualistic distinctions and their socio-environmental implications for contemporary social science, see Adam 1998b: 385-402.

^{xiv} See Wynne 2005 who is arguing these points with reference of post-genomics knowledge.

Sociological practice is an umbrella term that encompasses the different forms of sociology: basic, applied, clinical, and public. Each of these are ways people can do sociology. One example of how people do sociology is Hull House. Hull House was a settlement house in the United States that was co-founded in 1889 by Jane Addams and Ellen Gates Starr. Located in Chicago, Hull House opened its doors to recently arrived European immigrants. The mission of Hull House was to provide social and educational Sociology of the Future: Tracing Stories of Technology and Time. *Sociology Compass*, 2(6), 1878-1895. General rights Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights. © Users may download and print one copy of any publication from the public portal for the purpose of private study or research. © The common thread between the perspectives and professional practices of foresight is the notion that the future is not fully set, but is an object of creation and therefore subject to modulation. *Futures in the Making: Contemporary Practices and Sociological Challenges*. Barbara Adam, Philadelphia Mariott. 2005. The paper explores sociological approaches to the future from early beginnings of the discipline to the present. It uses Max Weber's While the presence of uncertainty in the geometric and attribute aspects of geographic information is well known, it is also relevant. Is this relevant? 2001. 2001. Interdependent Utilities, Preference Indeterminacy, and Social Networks. Yann Bramoullé. 2001. Interdependent utilities constitute the only model of interdependent preferences in which agents truly respect the others' preferences. Is this relevant?