5

Narratives of the Future: Complexity, Time and Temporality

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INTRODUCTION

There is a long established tradition of using personal narratives in social science. Although narrative research encompasses a vast diversity of approaches, in general, there is a shared emphasis on the past and the notion of reconstituting the past through personal story-telling (Clandinin, 2000; Reissman, 1993, 2008). In contrast, the idea of narratives of the *future* is explored in some detail here. Indeed, from a complex systems perspective to the social world (see Byrne's chapter in this volume as well as Byrne, 1998; Cilliers, 1998; Cohen and Stuart, 1994; Waldrop, 1992) exploring narratives of the future, it is suggested, ought to be a fundamental and routine part of the complexity driven social scientist's methodological repertoire.

The discussion is not a defense of the 'narrative' *per se*, but rather a discussion about the ways in which time and temporality inform social objects of study. The 'social objects' considered here are similar to those delineated by Williams (2009), which are socially constructed but real in their consequences, ontologically contingent in the sense that prior to their existence they only exist probabilistically, and once in existence they have 'causal properties' with respect to effecting the existence of other social objects. Taking Williams' argument a little further, a key feature of these social objects is that time and temporality are

also ontologically intrinsic to them. This general presupposition is already widely acknowledged with respect to the past; hence why narratives are so widely used in historical or retrospective studies. However, like narratives of the past, narratives of the future also inform social objects of study in important ways. Extending Williams' argument further still, the social objects are complex. This involves the explicit acknowledgement that the objects of study are dissipative, open, non-linear, multi-dimensional, social systems which are situated in time and space (see Byrne, 1998; Kiel and Elliott, 1997; Prigogine 1980; Prigogine and Stengers, 1984; Reed and Harvey, 1992).

The argument presented here is in many respects a very simple one. At its heart is the view that the future matters. It matters in everyday life and it matters to the lives of everybody; it is an intrinsic part of the time and temporality in which all things are necessarily situated. This is already a theme that is well argued by Adam and Groves (2007), but what is presented briefly here is an acknowledgement of future matters specifically in social research, since the way the future of a social object is perceived feeds back onto how it is constructed in the present. In turn, in order to study social objects in the present, narratives of the future that are associated with them are also important. Indeed, it will be suggested that from a complexity point of view, narratives of the future are fundamental.

To be clear, the use of the term 'narrative', as it used here, is spelt out in part by Lawler in the following:

> I am not using 'narrative' here to indicate a 'story' that simply 'carries' a set of 'facts'. Rather, I see narratives as *social products* produced by people within the context of specific social, historical and cultural locations. They are related to the experience that people have of their lives, but they are not transparent carriers of that experience. Rather, they are interpretive devices, through which people represent themselves, both to themselves and to others. Further, narratives do not originate with the individual: rather, they circulate culturally to provide a repertoire (though not an infinite one) from which people can produce their own stories. (Lawler, 2002: 242)

In addition, narratives are assumed to be interpretive devices that can also be used to produce stories about the social world, albeit from a particular standpoint. And it is this aspect that is especially important here because individual biographies *and* the ways in which these interact with macro-level social dynamics are considered to be an important part of how the social world works. Narratives enable the exploration of how some of these interactions manifest themselves at both micro and macro levels and help therefore in understanding trajectories of change more generally (Uprichard and Byrne, 2006). What is presented is a philosophical account of how narratives of the future inform the object of study as it is both being in present and becoming in the future, and a discussion about why their inclusion in social research for such purposes is especially important. As such, this discussion relates to particularly methodology rather than to method. That said, the method that is implied throughout is that of the semi-structured interview, whether that be an individual or group semi-structured interview. The specific position to this method is that intrinsic to Holstein and

Gubrium's (1995, 1997) notion of 'active interviewing', whereby the interviewer and the interviewee are considered to have co-produced the interview data in active collaboration with one another. They explain:

> Both parties to the interview are necessarily and ineluctably *active*. Meaning is not merely elicited by apt questioning, not simply transported through respondent replies; it is actively and communicatively assembled in the interview encounter. Respondents are not so much repositories of knowledge – treasuries of information awaiting excavation, so to speak – as they are constructors of knowledge in collaboration with interviewers. (Holstein and Gubrium, 1997: 106)

One of the main implications of this approach is there is an acknowledgement of issues of power, control, authority and expertise in the production of the data. Moreover, these issues are articulated through a collaborative exercise between the interviewer and the interviewees. From this perspective, data produced in the interview is seen as 'materials for analysis' (Roulsten et al., 2001: 769), which are co-constructed by the interviewer and interviewees interacting together during the interview.

This deliberately moves away from perceiving interview data as untarnished representations of the respondents' external realities. Instead, there is an inherent subjectivity in the production of all knowledge (Madill et al., 2000: 3). Interview material, however, comes in part from the research informants and is seen as potentially allowing the researcher glimpses of the structuring and generative mechanisms in which they are embedded. As Hammersley and Gomm explain, the approach adopted here is that:

> Reality, even 'inner reality', is not something that exists as a self-displaying manifold which is open to view if only we can get into the right position, or acquire the right spectacles, to see it. Rather, it is something that we have to make sense of through concepts. At the same time, these concepts do not create something out of nothing but capture the nature of some act of reality more or less adequately. So, what people say – in interviews and elsewhere – can help us to understand their dispositions, even thought they do not have complete, direct or definitive knowledge of these . . . Often they *will* be a source of bias, but it may still be possible to detect and discount this through methodological assessment. Nor does the fact that interview accounts are always constructions mean that they cannot be accurate representations. (Hammersley and Gomm, 2004: 96–7)

Thus, whilst interview data are not treated as literal descriptions of social reality, they are used as a resource to know about it (Atkinson and Silverman, 1997; Silverman, 1985, 1993).

Note that this argument applies to knowing the social world whatever the time frame under observation. The interview method does not dictate the temporal horizon intrinsic to any particular research design any more than a hammer dictates whether a nail or a piece of wood is actually hammered. The choice of which temporal horizons are examined remains the choice of the researcher. All that is suggested here is that asking individuals about their desired and projected futures ought to be part of the social scientist's methodological tool box (see also Uprichard and Byrne, 2006 on this issue).

As well as there being particular assumptions related to the method underpinning this discussion, the approach to time and temporality is quite specific also. Here, Barbara Adam's extensive work on time and social theory (see, e.g. Adam, 1995, 1998, 2004, 2007) is used as a backdrop to the discussion. That is, time and temporality are taken to be real *ontological* entities which shape the world, as seen in the 'ageing process', for example, but they are also shaped by social life as well (see Prigogine 1980, 1997; Prigogine and Stengers, 1984 on this issue). The 'past', 'present' and 'future' are considered to be particular 'timescapes' (see Adam, 1998) which, although ordered chronologically, do not sit independently of each other, nor of our experiences of them in everyday life. That said, it is George Herbert Mead's work on time and temporality that is more explicitly used than that of Barbara Adam, mainly because he offers an important access point to the temporal recursivity that runs through this particular discussion here, although this arguably features more or less strongly across Adam's work too.

It is worth noting what is *not* being argued here. In arguing that narratives can inform the future, it is *not* being argued that knowledge about the future in its entirety can ever be obtained; this is thought to be too ambitious a task. This is primarily because it is assumed that any social science methodology needs to account for the *complexity* of the social world (Byrne, 1998; Khalil and Boulding, 1996; Reed and Harvey, 1992, 1996). This position presumes that the social emerges from complex systems, which involve contingent, multiple non-linear interactions. Complex systems are, therefore, unpredictable insofar as it is impossible to determine the *exact* future of a system. What is possible, however, is a notion of possible futures. Much like a series of multiple choice options or those story-like descriptions of possible futures involve 'scenario thinking' (see Kahn and Wiener, 1972), where these scenarios are 'perhaps accompanied by a description of forthcoming events leading to that future' (Henshel, 1982: 60). As Staley (2002: 38) puts it, 'If a prediction is a definitive statement of what the future will be, then scenarios are heuristic statements that explore the plausibilities of what might be'.

The advantage of thinking about the future as a possible set of scenarios is that it provides a way of empirically considering future events specifically from the social actor's point of view. In addition, according to the National Intelligence Council (2004: 21), 'Scenarios offer a more dynamic view of possible futures and focus attention on the underlying interactions that may have particular policy significance. They are especially useful in thinking about the future during times of great uncertainty.' Importantly, however, '*scenarios are not meant as actual forecasts,* but they describe possible worlds upon whose threshold we may be entering, depending on how trends interweave and play out' (National Intelligence Council, 2004: 16, original emphasis). In turn, and following Cartwright, this involves a focus on what *can* happen instead of what *will* happen, since what *will* happen is usually unknowable or only knowable under specific *ceteris paribus* conditions of laws, which are only real theoretically rather than what happens ontologically (see Cartwright, 1999).

That said, even where linear laws of change have appeared to allow prediction of, say, states of motion of physical bodies, this too is also seen to be problematic (see Cartwright, 1999, 2000, 2004, 2006). As Cartwright sums up:

> . . . a good deal of our knowledge . . . is not of laws but of natures. These tell us what *can* happen, not what will happen, and the step from possibility to actuality is a hypothesis to be tested or a bet to be hedged, not a conclusion to be credited because of its scientific lineage. (Cartwright, 1999: 10)

The issue, therefore, is not so much about predicting the *exact* trajectory that a system will take, and indeed this is primarily how what is advocated here differs from classical notions of 'prediction'; classical notions of prediction tend to imply determinism. Yet from a complexity perspective, the arrow of time suggests that there is nothing determined (although there may be path dependencies) and there is always a necessary conflict between prediction and the uncertainty of the future (Prigogine, 1980, 1997; Prigogine and Stengers, 1984; Nicolis and Prigogine, 1989). Instead, what is put forward is an argument for the use of the interview as a way of constructing multiple possible futures of a system's trajectory through personal narratives, and more specifically, how those possible futures impact on how we conceptualise objects of study in the present. If the classical notion of prediction comes into this discussion at all, then it is with regards to concocting relatively accurate probabilistic short-term forecasts concerning the outcome of, say, a handful of possible (non-determined) futures.

Of course, what *can* happen, at least theoretically, might be an infinite list of possibilities. However, the possible futures that are the focus of this chapter are considered to be both knowable and more or less probable, even if they remain only hypothetical and ultimately end up being falsified as time unfolds. Just as our understanding of the present conditions our narratives about the past, so do our narratives of the present help us to contemplate the future, which in turn recursively impacts on how we consider the present. Thus, our narratives of the present are never independent of the narratives of the past or future. Conversely, our narratives of the future are also dependent on the narratives we construct about the past and present.

The concern is not whether these possible futures actually occur or are ultimately revealed to be more or less 'right' or 'wrong'. Changes or events that are thought to occur in the future may never actually materialise. What is important is the extent to which those future scenarios affect the way objects of study are conceptualised in the present. What actors think will happen may shed light on what is happening now; what is thought to be happening now impacts on the way it is explored methodologically. Note that this is the case even if what is thought to be happening now or in the future turns out to be incorrect later. The point is that narratives of the future offer important insights relating to the ontological dynamics involved in social objects of study, which subsequently effect how we go about methodologically studying a particular object of study. It is this 'temporal recursivity' *vis á vis* objects of study in the present, and

the methodological implications that this temporal recursivity entails, that is explored here.

A PHILOSOPHY OF THE FUTURE

Although there may be important ontological differences between the past and the future insofar as with respect to the past, as Wordsworth puts it in *Ode to Immortality*, that 'Which having been must ever be', whereas with respect to the future, that which is being must yet become, they are nevertheless similar insofar as they are both contingently emergent through the irreversible dynamics of time. Therefore, when it comes to epistemological processes involved in knowing the social world, constructions of the future share a number of similarities with those about the past and present (see also Staley 2002 on this issue).

Following Bhaskar's (1979: 31) argument about the fact that 'it is because sticks and stones are solid that they can be picked up and thrown, not because they can be picked up and thrown that they are solid', it is arguably because of the real dynamics of the irreversibility of time (Prigogine, 1980) that they can be constructed and interpreted in similar ways, even if the fact that they can be handled in this sort of way may be a contingently necessary condition of our knowledge of their different temporal phenomenological experiences. To put it another way, although past and future are understood differently, they are nevertheless 'made of the same stuff'; just because we have more or less data or knowledge about them does not mean they are fundamentally different social objects. It is precisely because of the narrative element to the dynamics of time and temporality itself in both the physical and social worlds (Prigogine 1980), and therefore in the lives of individuals and our experiences of being in the world, that our narratives of the past and the future need to be considered together when it comes to knowing the dynamics of the present. This of course has methodological implications for social scientists in terms of how they conduct research.

By drawing on George Herbert Mead's (2002(1932)) *Philosophy of the Present* and applying some of his ideas about the past and its importance on the present to ideas about the future, it is suggested that the past and future have at least three things in common, specifically with respect to knowing the present. First, although it is possible to build up knowledge about both the present and the future, these constructions are always subject to change. Constructions of the past and future are always evolving, and importantly they can only ever be constituted in the present (Adam, 1990: 142). As Oakeshott (1995: 8, cited in Adam, 1990: 143) writes, 'Both future and past, then emerge only in a reading of present and a particular future or past is one eligible to be evoked from a particular present and is contingently related to the particular present from which it is evoked'. Similarly, Mead writes, 'the historian does not doubt that something has happened. He [*sic*] is in doubt as to what has happened'. Similarly, Bourdieu

(1990: 15) notes, 'The essential thing about historical realities is that one can always establish that things could have been otherwise, indeed *are* otherwise in other places and other conditions'. Hence, in contemplating the future, one is in no doubt that something will happen, or even that something could happen; what is in doubt is *what* will happen. Equally, the essential thing about future realities is that one can always establish that a thing could become otherwise, indeed *will* become otherwise in other places and other conditions.

To this extent, although researchers concerned about the past or the future may be dealing with different time frame, they each have to grapple with elements of uncertainty. The historian may build up a relatively convincing case about what happened (in much the same way as a detective needs to build up evidence to support the case), but there is no absolute certainty that any particular description of events is the one and only version of those events. Similarly, descriptions about the future can only be multiple rather than singular. This is not to say that all descriptions of the future are equally valid any more than all descriptions of the past are. Like the past, knowledge about the future, and in turn the validity of the narratives of the future, are always subject to change as new layers of knowledge – in the present – become available (see Reed and Harvey (1996) on the ontological nesting of irreducible layers of reality and the subsequent layering of knowledge). In other words, uncertainty is real in both retrospective and prospective studies because of this 'ontological nesting of irreducible layers'; we cannot get away from this.

Second, as has already been implied in the first point, constructions of the past and the future are each dependent on constructions of the present. For Mead, 'the past is such a construction that the reference that is found in it is not to events having a reality independent of the present which is the seat of reality, but rather to such an interpretation of the present in its conditioning passage as will enable intelligent conduct to proceed. It is of course evident that the materials out of which that past is constructed lie in the present' (p. 57). Similarly, what is suggested here is that constructions of the future are not independent of the present, but are instead an interpretation of the present (and the past) in its condition passage as it is perceivable. In other words, constructions of the future are dependent upon the constructions of the present and past. Mead explains this as follows:

> our pasts are always mental in the same manner in which the futures that lie in our imaginations ahead of us are mental. They differ, apart from their successive positions, in that the determining conditions of interpretation and conduct are embodied in the past as that is found in the present, but they are subject to the same test of validity to which our hypothetical futures are subject. And the novelty of every future demands a novel past. (Mead, 2002(1932): 59)

Indeed, Bergson's (1910) concepts of *temps* and *durée* are precisely about the way that the present is always constituted in emergence and that time as a whole – whether it be past, present or future time – are actively constantly created and recreated. Hence, even though the temporal order of the past and future differ, they share similarities insofar as they are each constructed based on the

knowledge of the present, and since the present is always changing, so too must our constructions of the past and the future constantly shift according to this new 'updated' and 'emergent' knowledge of the present.

Mead argues that 'we orient ourselves not with reference to the past which was a present within which the emergent appeared, but in such a re-statement of the past as conditioning the future that we may control its reappearance' (p. 46). That is to say, the present is considered in relation to constructions of the present-to-future trajectories, just as the future is constructed with respect to constructions of the present-to-future trajectories. To this extent, narratives of the future are but re-constructed possibilities, relative to our re-interpretations of the past and the present as conditioning the parameters of the range of possible futures.

Third, although emergent phenomena are necessarily unforeseeable and therefore render knowing the future problematic, this problem is not uncommon to knowing the past. That is, in relation to the historian's predicament, Mead argues that even if the historian were to know all about the present, it would not be possible for him or her to determine what has happened in the past. Mead suggests that this is primarily because of the possibility of emergence:

> It is that there is and always will be a necessary relation of the past and the present but that the present in which the emergent appears accepts that which is novel as an essential part of the universe, and from that standpoint rewrites its past. (Mead, 2002(1932): 43)

Similarly, in relation to the researcher's predicament about the future, there is and always will be a necessary relation of the present and the future, but the possibility of emergent phenomena in the future renders it impossible to predict or even hypothetically consider the future in its entirety. Nevertheless, as Mead puts it, the 'irrevocable past and the occurring change are the two factors to which we tie up all our speculation in regard to the future' and which – importantly – ultimately act as a 'determining condition of what is taking place' (p. 45). The ways in which the future impacts on the present, then, are not just epistemological; they are ontological. Moreover, this temporal ontology involves an important dynamic that has effects at the level of the individual social agent.

NARRATIVES OF THE FUTURE AS STRUCTURING STRUCTURES

What Mead's 'philosophy of the present' offers, then, is a way of constructing a philosophy of possible futures which has ontological implications with respect to the present, that is the future acts as a 'determining condition' of the present. Popper (1959) too has suggested something similar, although he comes at it from the very different angle of single case probability for physical occurrences. In his 'world of propensities', he argues that the propensity of an event – that is its 'dispositional properties' – is ontological and relational, and always dynamic, even if the absolute probabilistic value (which varies from 0 to 1, where 0 implies logical impossibility, that is the event cannot ever occur, and 1 implies logical necessity

of occurrence, i.e. the event has occurred) is unchanging. More precisely still, Popper suggests, albeit tentatively, the propensity of an event is dependent on how that event is perceived and understood; vice versa, how it is perceived and understood can change the event's propensity to occur. He writes:

> Now, in our real changing world, the situation and, with it, the possibilities, and thus propensities, change all the time. They certainly may change if we, or any other organisms, *prefer* one possibility to another; or if we *discover* a possibility where we have not seen one before. Our very understanding of the world changes the conditions of the changing world; and so do our wishes, our preferences, our motivations, our hopes, our phantasies, our hypotheses, our theories. (Popper, 1995: 17; original emphasis)

Now, there are problems involved in applying Popper's propensity work to the social world – see Williams (1999) for a good overview and alternative. However, the notion that every thing has its own propensity, which is relationally determined, yet always changing relative to the totality of its environment, is a powerful one in complex social science, primarily because of the importance given to exploring the nested ontology of a thing-in-the-world at the level of both cause and meaning. Conversely, what is interesting is that Popper's physical world of propensities is echoed in Bourdieu's theory of social change. And whilst not going into the details of his work here, Bourdieu (1984, 1990a, b) also recognised the importance of time and temporality on individual and collective 'structuring structures' and 'dispositions'. Indeed his theory of 'habitus' and 'field' is arguably a temporal argument about how change occurs:

> The habitus, a product of history, produces individual and collective practices – more history – in accordance with the schemes generated by history. It ensures the active presence of past experiences, which, deposited in each organism in the form of schemes of perception, thought and action, tend to guarantee the 'correctness' of practices and their constancy over time, more reliably than all formal rules and explicit norms. (Bourdieu, 1990b: 54)

Although Bourdieu refers most frequently to past events and the effects of history and how these feed into the present 'structuring structures', he also argues that the individual habitus 'adjusts itself to a probable future which it anticipates and helps to bring about because it reads it directly in the present of the presumed world'. In fact, he goes as far as suggesting that individual agents' disposition to 'cut their coats according to their cloth' renders individuals 'to become the accomplices of the processes that tend to make the probable a reality' (Bourdieu, 1990b, 64–5). For example, the desired futures that individuals might have for themselves, those around them and the world in which they live may vary according to, among other things, their habitus. This in turn impacts on the ways in which individuals choose (and think they can choose) to act in the world. Thus, what individuals do in the present, how they experience the present, feeds into what individuals think they can do in the future, which in turn feeds back into what is done in the present and how the present is experienced and lived out. It is worth repeating the gravity of Bourdieu is implying here: individuals become accomplices of the processes that *help to make the probable a reality.* Like Popper's

'world of propensities', then, Bourdieu's world of 'probable futures' is one which is weighted towards particular outcomes, which in fact tend not to be dissimilar to the way that similar events tended to unfold most frequently in the past.

Bourdieu's philosophy has indeed been criticised as being a deterministic theory of social reproduction that does not adequately account for the radical kinds of social changes witnessed in recent decades (see, e.g. Chiou, 1992; Jenkins, 1982). However, one might argue that, where the social is assumed to be complex, as it is here – that is dynamic, changing, non-linear, existing in a state far from equilibrium, is sensitive to initial conditions, etc. – that even when such a system reproduces itself, the outcome is *likely* to be very different at some point in time. Indeed, elsewhere Bourdieu himself points out that 'the same habitus can lead to very different practices and stances depending on the state of the field' (1990a: 116). Thus he may be overstating things by suggesting that the individual habitus adjusts itself such that individuals 'cut their coats according to their cloth', even if they may *tend* to do so. What is central to the construction of narratives about possible futures therefore is a notion that individuals may also – taking Bourdieu's analogy further – 'cut their coats – or trousers or dresses, etc. – in quite *un*foreseeable ways and according to completely different rules and a feel for a *new* game'.

Even where we acknowledge that there may be some element of a reproducing dynamic that is in part 'driven' by the way our orientation to the future feeds back into present day action(s) through the structuring structures, dispositions or propensities, etc., one possible future must always be the 'unknowable'; the 'unknowable future' is the 'constant' narrative, if you like. By this I mean that, if we think about narratives of the future as a list of multiple choice options, then one possible scenario needs to be 'none of the above'; there is an acknowledgement of the 'known unknown'. This is of course an important qualification to what was stated above about how the narratives of the future being discussed here are 'knowable'. But it is an important qualification because it not only explicitly accepts the limits of our knowledge about the future, but it also positions the possibility of emergent phenomena as central to narratives about the complex social world more generally. After all, future emergent phenomena are by definition unknowable, yet emergent phenomena are intrinsic to the complex social world. Therefore, there is a need to conceptualise the future such that the possibility of emergence is also acknowledged. The 'known unknown' possible future is simply a way of explicitly accounting for unknowable future emergence and plays an important 'hinge' to what is being argued here.

Nevertheless, even by conceptualizing narratives of the future as tentative, hypothetical and imaginary, and there is an acknowledgement that there is always a 'known unknown' possible future, as Mead points out, there is a rather convoluted, but important, temporal, iterative and recursive dynamic whereby actors, individually or collectively, may re-describe events, which were previously unforeseeable, in new ways that subsequently help to foresee the once unforeseeable

possible futures, which are of course now past, yet help to re-describe the present. He explains this in the following passage:

> The difficulty that immediately presents itself is that the emergent has no sooner appeared than we set about rationalizing it, that is, we undertake to show that it, or at least the conditions that determine its appearance, can be found in the past that lay behind it. Thus the earlier pasts out of which it emerged as something which did not involve it are taken up into a more comprehensive past that does lead up to it. (Mead, 2002(1932): 46)

What hindsight allows the reflexive agent, then, is a way of re-interpreting the past such that events which were previously considered to be unforeseeable may be re-constructed such that the unfolding events are not only explicable, but are seen as the 'inevitable' or 'most probable'. This theme is also apparent in Taleb's (2007) emergent 'black swans', where a 'black swan event' is one involving the following:

> First it is an *outlier*, as it is outside the realm of regular expectations, because nothing in the past can convincingly point to its possibility. Second, it carries an extreme impact. Third, in spite of its outlier status, human nature makes us concoct explanations for its occurrence *after* the fact, making it explainable and predictable. (Taleb, 2007: xvii–xviii)

Of course, this acknowledgement does not change the fact that narratives of the future may impact on how the present is perceived or lived out; it simply accentuates the 'cumulative laying up of knowledge', which strips away layer after nested layer of reality (Harvey and Reed, 1996). Thus, even if we accept that individuals may be 'predisposed' to act in certain ways (Bourdieu, 1990) or that the outcome of events may be 'weighted' towards the 'changing propensities that influence future situations without determining them in a unique way' (Popper, 1990: 12), the ontological uncertainty *of* everyday life *in* every day life is both real and enduring, even though retrodictive knowledge may seem more certain than prospective knowledge. In other words, despite arguing for knowledge about narratives of the future and suggesting that these feed back into the ontological predispositions or propensities everyday life in the present in important ways, the indeterminacy of the complex dynamic world is still recognised (Prigogine and Stengers, 1984; Nicolis and Prigogine, 1989).

This being the case, where does that leave the empirical social scientist, who remains interested in knowing the social world in spite of its complexity of the epistemological limits it entails? What methodological approaches might be appropriate to a future sensitive approach to the social, which also acknowledges the complex ontology of social objects? After all, as Harvey and Reed (1996) argue, 'the ontology of the subject matter [ought to] dictate the range of methods employed, and not vice versa' (p. 321). But what might this involve where time and temporality – and for our purposes here, that of the future in particular – are considered key dimensions to such a methodological project? In the concluding section of this chapter, both a pessimistic and an optimistic answer are provided respectively.

CONCLUSION: METHODOLOGICAL IMPLICATIONS

The bad news is the methodological challenge of studying the complex social world has never been greater. Not only does the complexity turn in the social sciences raise serious methodological and epistemological challenges to empirical social researcher (see, e.g. Byrne, 1998; Kiel and Elliott, 1997), but the ubiquitous digitization of data has, for some, raised an 'empirical crisis' more generally (Savage and Burrows, 2007). Although software and technological developments also bring with them a range of innovative methods, there is still, as Harvey and Reed (1996) stress, a need to concoct research designs that are both methodologically and ontologically congruent with the specific object of study. Time and temporality are, in my view, key to developing such research designs. This requires an epistemological approach to time and temporality, where time acts as a 'marker of time' of things 'being' in the present, past and future; longitudinal data and longitudinal studies will certainly be part of that approach. In addition, it requires an ontological approach time as 'ageing' where things are seen as 'becoming' in the past, present and future. This 'two-pronged attack' on time and temporality is in part what Prigogine argues for in studying dissipative dynamic systems. The same needs to apply to complex social systems. Exploring narratives of the future is simply one way of addressing that challenge.

The good news – at least epistemologically, if not always methodologically! – is that studying the social world involves human beings. People come in all shapes and sizes, a wide, albeit limited, range of ages and cohorts; they come from all kinds of social and cultural backgrounds, from all areas of the globe. Unlike the biological taxonomist's predicament, the sociologist's research sample is relatively accessible, widespread and relatively easy to find. Indeed, the increased digitization of data, particularly in the guise and rise of Web 2.0 applications, such as Facebook, YouTube and Twitter etc., in which millions of people voluntarily donate masses of private and personal data without the sociologist even asking them to do so have made some previously 'hard to reach' populations or 'sensitive data' very easy to come by.

Yet it is not simply that research participants or social data are increasingly accessible that ought to provide the social scientist with some hope about tackling the methodological challenge of studying the complex social world, although this is certainly part of the good news. What is more interesting and more significant, particularly with regards to learning about narratives of the future and the way that they shape the present, is the more mundane fact that people are *part* of the social world. Indeed, this is both a logical and ontological necessity of being and becoming in the world as it too is being and becoming (Heidegger, 1962). But people are of course more than a part of the complex social world, they are an embedded part of it. As Peat writes:

> We can no longer adopt the privileged position of assuming that we lie outside a system as impartial observers who can objectify the world and discover its underlying mechanisms. Rather we are all part and parcel of the complex patterns in which we live and our thoughts, beliefs and perceptions have a profound effect on the world around us. (Peat, 2007: 928)

Thus, whilst each individual is subject to a particular standpoint, this remains an embedded and temporal standpoint. This relates directly to Emirbayer and Mische's (1998) notion of agency, which is based precisely on an *embedded* agent, who is embedded in the social in important ways, including temporally. Agency, they argue (1998: 63), is 'a temporally embedded process of social engagement, informed by the past (in its habitual aspect), but also oriented toward the future (as a capacity to imagine alternative possibilities) and toward the present (as a capacity to contextualise past habits and future projects within the contingencies of the moment)'. As noted briefly above, Bourdieu's dialectical habitus-field model also assumes that agency contributes to the structures and systems from which the social emerges:

> at every stage within the limits of the structural constraints which affect their acts of construction both from without, through determinants connected with their position in the objective structures, and from within, through the mental structures – the categories of professional understanding – which organize their perception and appreciation of the social world'. (Bourdieu, 1988: xiv)

Rudd (2009) too argues that the individual is a reflexive temporal agent who acts for reasons. It is the task of critical social scientists, therefore, to explore, interpret and re-describe those reasons, and attempt to explore the ways in which they may or may not matter in explaining the dynamics of the social being and becoming in the present and future.

The importance of the individual agent in producing, interpreting and experiencing the social world is by no means 'news'. But what makes it 'good news' is that, in order to know about the social world, social researchers not only need to approach people as 'informants' in their studies, they can do so. Moreover, the researcher can communicate with the selected informants, observe and interpret them, etc. The entire social sciences are based on this very premise and the reason behind all methodological enterprises in which research participants are involved. Bateson's (1984) description of the survey method, for example, assumes the possibility that people can acquire, and convey to others, knowledge of that part of the social world that they encounter, either at first or second hand, in the course of ordinary living. He argues that 'the survey method assumes not just that people *can* know the world but that they *do* know it'. That is, if we ask someone about his or her world, then we can expect that, under normal conditions, that person will 'tell it as it is'.

This begs the question, although research 'informants' are normally approached to learn more about the past and present, why not also ask them about what they think the future may hold? Indeed, why not ask how they themselves perceive the future to impact on the present? Their reasons behind their answers? Their concerns about the implications on their ability to act in the world? And so on; the conversation can of course go as deep or as broad as may be necessary (within

practical and ethical limits of course). After all, implicit in the social scientist's approach to obtaining narratives of the past is the assumption that individuals *can* talk about the past, so it is rather curious that when it comes to asking individuals about the future, there might be a perception that individuals are somehow unable to talk about the future. This perception is simply unfounded. There is no intrinsic reason why researchers cannot ask individuals about their desired and projected futures, any more than it is impossible to obtain data of a highly sensitive nature. The extent to which a researcher can elicit narratives of the future from an individual or groups of individuals depends on the interviewing skill of that researcher, not on the temporal horizon of the narratives obtained during the interview.

Likewise, what one does exactly with the narratives of the future once they are obtained depends on the research aims and design of the study. For example, it is possible, just as it is with ordinary interviews, to record and transcribe the interviews, and then to use a chosen qualitative analytical approach, such as Grounded Theory, to help interpret and make sense of the data. Thus, whilst one might transform qualitative narrative material into quantitative variables and to input this information into a quantitative model, which in some cases, depending on the aims of the project, might also be deemed appropriate, this is not considered to be the first and foremost objective of the narratives. Despite the temptation that some researchers may have to move from qualitative narratives of the future to quantitative predictive models, the view proposed here is that there is great value in qualitative material in and of itself, if only because being in the world is a temporal experience. The irreversible arrow of time is part of the physical and social world in which we are necessarily embedded. History matters. But so does the future. Hence, as stated from the outset, the argument presented is in its essence a very simple one. The future matters and it matters in all kinds of ways, not least in the way that our constructions of the future feed back into the ways individuals experience and act in the present.

What is fortunate is that there is in social science a readily available and 'tried and tested' methodological device – that is the interview – through which to explore the ways in which the future matters in everyday life as well. For a long time social scientists have been asking individuals to describe various aspects of their lives. However, there is no methodological reason why they cannot begin to ask individuals to describe their desired and projected futures. After all, the future is but one of many aspects of individual's life. Given its relative importance to everyday life it is a wonder that it has been such an overlooked topic of investigation.

Obtaining narratives of the future derived from interviews that seek to deliberately elicit individual's desired and projected futures, is then, simply one of many possible methodological approaches that explicitly reflects the social and temporal ontology of the complex social world. Another is of course the very likely 'known unknown' possibility that other suitable temporal methodological approaches may crop up in the future, which may also impact in more or less

important ways on how the present or the future is constructed and experienced. And so the methodological challenge of studying the complex social world goes on and will no doubt continue to go on, even if it is unclear for now how exactly it will do so.

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