

## Rationality and the Shoulds

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This paper is about rational and irrational uses of deontological words, such as “should”, “ought”, and “must”. These will be referred to as “the shoulds” (after Horney, 1991). The shoulds are used in giving reasons of a certain kind, reasons which appeal to the authority of shared conceptual schemes, sometimes drawing on the specialised codes and technical accounts whose use is described by Tilly (2006). They have a coercive force, akin to demands, and are used to decide and persuade, as well as to defend or justify or explain actions when asked for reasons. When conceptual schemes are defunct or inaccessible, or when their authority is questionable, the shoulds are likely to seem irrational. But even then they sometimes maintain their coercive force. This is partly because, as Weber pointed out, the authority of traditionalist or charismatic conceptual schemes is maintained through routinization and rules (Gerth and Mills, 1958, p. 299), which creates at least an appearance of rationality. We will be looking at some extreme versions of this, where the coercive force remains in the absence of rationality.

Generally the use of the shoulds forms a bridge between a source of knowledge or prescription, and the thought or action prescribed by such sources. The source may be written, like a holy book, a technical handbook, or a guidebook or map that is relied upon; or more abstract, like the structures and interrelations of eternal essences in a Platonic heaven, the loosely codified norms of a society, or the conceptual schemes of folk wisdom, religious dogma, or scientific practice. If they are articulated, the sources tend to be read or heard as what Bakhtin called “Authoritative Discourse” in his essay *Discourse in the Novel*:

The authoritative word demands that we acknowledge it, that we make it our own; it binds us, quite independent of any power it might have to persuade us internally; we encounter it with its authority already fused to it. (Bakhtin, 1981, p. 342)

By contrast,

Internally persuasive discourse—as opposed to one that is externally authoritative—is, as it is affirmed through assimilation, tightly interwoven with “one’s own word”. In the everyday rounds of our consciousness, the internally persuasive word is half-ours and half-someone else’s (Bakhtin, 1981, p. 345)<sup>1</sup>

The shoulds, we argue, originate from the “demands” of authoritative discourse (AD), and potentially infiltrate internally persuasive discourse (IPD). There they can in principle retain their coercive force even when their origin in rationality is lost or defunct.

Where is rationality of the shoulds first established? Is it in the conceptual schemes whose authoritative discourse (AD) prescribes rational thinking and actions? Or is it in the thinking and actions of human beings, of which internally persuasive discourse (IPD) is a part, shown in both inner and outer dialogue? Or does it emerge from the interplay between the two, as entailed by a mutualist ontology (Still and Good, 1992, 1998)? Here we elaborate on the latter view, by examining real and hypothetical instances where the interplay has become frozen or distorted in some way. After describing this pathology in the rationality of the shoulds, we turn to William James, who drew attention to a first aid kit for rationality in his detection of the psychologist’s fallacy.

To illustrate rational shoulds in everyday action we begin with an example. On New Year’s day 2005 one of us with 2 companions chose a walk over the Cheviots in Northumberland, following a well-known guide book and an Ordnance Survey map, but without a compass. These were the sources of our AD. The weather was good at first and the walk was easy to follow. Then it began to rain followed by a blizzard, for which we were ill-equipped. Our map began to disintegrate as we looked for a signpost referred to in the book, pointing to Nether Hindhope where we had left our car. We came to a signpost with one arm missing, and after some shared IPD about what we should do, we decided this had probably pointed to Nether Hindhope, and was the one we must follow. In fact the path took us back from where we had come, and we were almost lost and getting exhausted in the dark. Just visible in the distance was a road marked on what remained of the map, though it was the other side of the Cheviots from our car, so to head for it meant that though we would probably find a place of safety, we would not return to our car that night. After more IPD, we agreed that we ought to head for the road, and ended up cold and wet in an isolated shepherd’s cottage, drinking port and talking about football. Eventually a friend collected us. During the Summer of 2006 two of us retraced the walk in fine weather with a good map and compass, and found that there was no signpost to Nether Hindhope, certainly not the one with the missing arm. The book was wrong. We got in touch with the author to point this out, and the next edition will be changed. The processes described here are an instance of duality of structures.

#### DUALITY OF STRUCTURES

Words do not have a life of their own. They are inseparable from the existence of the people using them, who are constrained yet free in the special way that Giddens referred to as the “duality of structures”: “Social structures are both

constituted by human agency and yet at the same time are the very medium of human agency” (Giddens, 1975, p. 121; Shotter, 1983; Still and Good, 1992). Following the map and guidebook in our example is part of what constitutes the social structures framing hill-walking. In a small way we were able to mould an aspect of the social structures by emailing the author. Thus, on an optimistic liberal reading, human agency is a benign source of variation within social structures, which in turn confirms or sometimes changes the social structures. In some ways this flexible model of change, as we interpret it here, is analogous to natural selection. Thus in his book on the evolution of the earth, Darwin described a mutual process in the way the soil of the Earth is constituted by the activity of worms, yet provides what can be aptly called “the very medium” of worm activity (Reed, 1982). Human agents do not mould social structures as straightforwardly (and literally) as worms have moulded the earth, but Darwin’s account provides a usefully ideal account of duality of structures to measure reality against. However, this is not how natural selection has been construed by neo-Darwinists and adaptationists (Gould and Lewontin, 1979), who have emphasized the moulding of organisms by environment, at the expense of the moulding of environment by organisms. In their criticism of adaptationists, Gould and Lewontin (1979) drew an analogy between the design of the spandrels of San Marco and evolution by natural selection. In arriving at the design the architect was constrained by public expectations, current architectural practice, and the structures that they had to mesh with. Possible variations were far from random, and Gould and Lewontin argued that similarly weighty constraints apply in biological evolution. This will be referred to as the “spandrel effect”.

The human agent is embedded in a human environment which includes the physical setting, but also the language and the constructions and the social setting within which he or she exists. If we imagine a diagram in which social structures or conceptual schemes are at the top, human agency below, then the whole can be sliced for the purposes of analysis vertically but not horizontally. That is, we believe it makes little sense to study human agency or social structures in isolation, but good sense to take an aspect of social structures and examine the interplay between this and a corresponding aspect of human agency. Language lends itself especially well to this form of analysis, and we could substitute AD and IPD for “social structures” and “human agency” in the above formula from Giddens. The hill walking example above is partly about language. We were irrational to set out ill-equipped on our walk, failing to follow the rational shoulds derived from the AD about winter conditions and equipment in the book and elsewhere. But once we were on our way, the AD of map and book guided our activity, telling us the paths we should follow. When conditions deteriorated our agency continued to be constrained by them until the AD proved inadequate, and IPD began to take over. We were led astray by these sources of AD, and later took action to reconstitute the instructions in the book. But the process is not just about language, since all of it took place within a culture from which the activity

of hill-walking, and the map-reading and guide books that go with it, get their meaning.

With an explicit emphasis on language embedded within social structures, Ian Hacking has examined a special aspect of duality of structures which he called “looping”, in his book on multiple personality:

People classified in a certain way tend to conform to or grow into the ways that they are described; but they also evolve in their own ways, so that the classifications and descriptions have to be constantly revised. (Hacking, 1995, p. 21).

Hacking used looping to structure the history of the concept of multiple personality. He makes no reference to Giddens or Bakhtin, but the rational language of diagnosis provides a ready parallel to AD, and the writings and discussions considered by Hacking correspond loosely to IPD.

These examples bring out how rationality emerges out of a balance between AD and IPD as duality of structures. A similar interplay between AD and IPD has been described in discourse about rationality itself, tested in the laboratory as a special activity, rather than as something that can belong to any activity:

(models of rationality) evolve over time, just as the idea of rationality has a history, a present and a future . . . Over the past centuries, models of rationality have changed when they conflicted with actual behaviour; yet, at the same time, they provide prescriptions for behaviour. This double role—to describe and to prescribe—does not map easily onto a sharp divide between descriptive and normative models, which plays down the actual exchange between the psychological and the rational. Herbert Simon’s notion of bounded rationality was proposed in the mid-1950’s to connect, rather than to oppose, the rational and the psychological (Gigerenzer and Selten, 2000, p. 1).

Simon’s (1956) bounded rationality was a move away from theorising based on the mathematical ideal of optimisation, and starts from the reality of cognitive abilities on the one hand, and the structure of the environment on the other.

Bounded rationality in economics, cognitive science, and biology is about humans and animals, not about how they compare with demons and Gods. (Gigerenzer, 2000, p. 40)

Simon and later writers have tried to simplify the “actual exchange between the psychological and the rational” by bringing the two together in a single concept, which Gigerenzer has called “Ecological Rationality”. This has given rise to a number of studies showing the importance of context in human reasoning, which demonstrate that the mathematical ideal, indifferent to context, is a poor model of human rationality, which works well given the appropriate context. Thus physicians given relevant a priori and conditional probabilities were startlingly inaccurate when asked to estimate the probability of a woman having breast cancer following a positive mammogram. But when the study was repeated with

natural frequencies rather than probabilities, physicians were correct most of the time. In an example described by Gigeranzer, “Dr Average”, the director of a university clinic, was clearly anxious and evasive when confronted with the problem in probability format, but visibly relieved and quick to find the answer with problems in frequency format, which corresponded more closely to his direct experience. Working in a different tradition of research, Lave (1988) made a similar point when she described the sophisticated mathematical skills involved in the budgeting of shoppers who had little or no knowledge of school mathematics. The reasoning skills in these cases are not mediated through the rational abstractions learned in the classroom. The abstractions of probability and rational choice theory may still provide an accurate formal account of the mathematical side of the process, but in practice the AD’s are based on the conceptual schemes of “folk wisdom” and medical practice.

Researchers in rational choice theory had assumed that rational problem solvers *should* always follow the AD of probability and rational choice theory if they are to act rationally, and that this is independent of context. This led to the paradoxical conclusion that professionals like Dr Average do not really decide rationally at all, since they do badly in the contexts provided. Ecological rationality has tried to correct this by taking context into account. In this example the pathology appeared as a result of the laboratory setup; the next example is about a duality of structures extending over thousands of years, embedded deeply into the Western way of life, where the supposed failure is due to the unappreciated decay of an overarching conceptual scheme.

#### ALISTAIR MACINTYRE AND THE DECAY OF MORAL REASONING

In a thought experiment at the start of *After Virtue* Alistair MacIntyre asked us to imagine a catastrophe which leads to the destruction of the institutions of science, its books, laboratories, teaching, the scientists themselves, leaving only fragments which later generations use to revive the old discipline. The fragments are put together in a simulacrum of scientific talk and practice.

But many of the beliefs presupposed by the use of these expressions would have been lost and there would appear to be an element of arbitrariness and even of choice in their application which would appear very surprising to us. What appear to be rival and competing premises for which no further argument could be given would abound (MacIntyre, 1981, pp. 1–2)

In this imagined future the rationality of science has disappeared, though some of the language and the heated arguments (now unresolvable) remain. The rest of MacIntyre’s book attempted to show historically how this dire state of affairs holds, not for science, but for the modern language of morality:

What we possess are . . . the fragments of a conceptual scheme parts of which now lack the contexts from which their significance derived. We possess indeed simulacra of morality; we continue to use many of the key expressions. But we have—very largely, if not entirely—lost our comprehension, both theoretical and practical, of morality (MacIntyre, 1981, p. 2).

Without the coherent conceptual scheme that was once provided by Aristotelean virtue ethics, the deontological words, the shoulds, which continue to be used as stridently as ever, have lost their connection with a shared system of beliefs about what a worthwhile and moral life would be, which is a necessary framework for practical rationality.<sup>2</sup> In the absence of such a link philosophers starting with Hume have puzzled over the meaning of such words, and concluded that they may be no more than expressions of feeling, or attempts at persuasion, or imperatives. They are no longer fully rational, but they have retained their coercive power. Is this a bad thing? MacIntyre believed so, and laments the consequences at the end of the book:

This time. . . the barbarians are not waiting beyond the frontiers; they have already been governing us for quite some time (MacIntyre, 1981, p. 245).

A comparable debilitation of a conceptual scheme (with the shoulds derived from it still forceful) has recently been described by Yurchak, in his analysis of the collapse of socialism in Soviet Russia (Yurchak, 2006). In order to understand this he made use of Bakhtin's distinction between AD and IPD. This distinction enabled Yurchak to find an alternative to the simplistic, dualistic view that the collapse of such regimes is preceded by simple disbelief in many people, who carry on the old rituals for the sake of form or safety.

Drawing on Austin, Derrida and other theorists, Yurchak developed the concept of a performative shift. Speech acts have a constative and a performative dimension, and according to John Austin, "every genuine speech act is both" (quoted in Yurchak, 2006, p. 22). A performative shift occurs when the performative dimension of ritualized speech acts that constitute AD rises in importance, while the constative dimension of these acts become open-ended, indeterminate, or simply irrelevant. (Yurchak, 2006, p. 26). The interplay of duality of structures has broken down and in these ways the shoulds can retain their power to police ritual conformity, while losing meaningful contact with the constative conceptual scheme that once underwrote their rationality.

#### EXCLUSION OF THE MENTALLY ILL FROM THE SPACE OF REASONS.

Another absence or debilitation of a conceptual scheme with the coercive force of shoulds retained, has been observed in common forms of psychological disturbance. At this individual level the shoulds have been implicated in psychological disorder, ever since Horney's book chapter, "The Tyranny of the Should"

(Horney, 1991). But before turning to this, it is important to notice that conceptual schemes and the AD they support, do not have to be generally regarded as rational in themselves in order for the reasons or beliefs to be rational. Newton-Smith (1981) pointed out that at the simplest level it is the giving of reasons itself that is important, not their quality or acceptability. If I believe that action A will bring about goal B, which I seek, then stating this as a reason for doing A will be rational at this simple level, even if my beliefs are generally considered wrong or unscientific, and the goal is one that most people would regard as unreasonable. Newton-Smith called this a “minimal rational account” or a “minirat” account. Thus in some Buddhist centres in the West, the food scraps after a meal are put on a plate outside. The reason? To feed the hungry ghosts. Whether we believe in hungry ghosts or not, this is a minirat account. It is not a minirat account because of the form of words, but because there is a duality of structures between conceptual scheme (the belief system) and thought or action. “To get to the other side” is not a minirat answer to the question “Why did the chicken cross the road?”, and “To feed the hungry ghosts” is not a minirat account unless there a belief behind it, involving hungry ghosts, either part of the Buddhist culture involving such beliefs, or beliefs personal to the speaker. There is what Weber referred to as *Planmässigkeit* or a “systematic arrangement” (Gerth and Mills, 1958, p. 293).

It is the ability to give reasons that has led some writers to place psychological being within the normative “space of reasons” (Brinkmann, 2006) rather than the nonnormative, causal space of scientific investigations into the physical and biological worlds

If there are actions that cannot be given even a minirat account, then it is arguable that if we are to find explanations for such irrational actions we have to turn to psychoanalytic theories. (Newton-Smith, 1981, 242)

In the psychoanalytic account the space of reasons is extended to include actions and beliefs whose reasons were previously unconscious. Bringing into the space of reasons is to bring into consciousness. The patient may come to understand how the pattern of actions which seem irrational, can be understood as the continuation of forgotten conceptual schemes that made sense of the shoulds in another world, that of childhood.

In a recent paper Brinkmann (2006) developed the Wittgensteinian view that the normative space of reasons and the nonnormative space of causes are distinct, and that the subject-matter of psychology lies in the space of reasons (Winch, 1958).<sup>3</sup> Thus, in the examples taken by Brinkmann, the doctor taps my knee and my leg moves. It just happens, there is no right or wrong, so this is nonnormative. If a sad movie makes me cry I may give a reason for this. “When the baby died it was so sad I had to cry”. But this reason can be wrong, Brinkmann argues, since I could have misunderstood the film by missing the irony and the true message, whereas the tap on the knee requires no interpretation intervening between tap

and knee jerk. Like Newton-Smith, Brinkmann suggests that some people are at least partially excluded from the space of reasons “when the normative orders are more or less suspended in a person’s life . . . due to madness, neuroses, psychoses and mental illness in general (Brinkmann, 2006, p. 12).

What exactly is it that could exile the psychotic or neurotic from this essentially human space? In this paper, we pursue the question further, treating it as a variation on the problematic relationship between AD and IPD described by Yurchak. It is a disruption in the interplay between AD and IPD, in which the shoulds retain their power, even though, as in Macintyre, they have lost touch with the conceptual scheme from which they were originally derived. Such words arise from the normative systems of AD. Because their power is great and their origin is hidden, they have been compared to coercion by “terrorist gangs” (Rosenberg, 1987), agents of a displaced authority that once infiltrated the IPD and continue to constrain its productiveness.

#### KAREN HORNEY AND THE TYRANNY OF THE SHOULD

Karen Horney described this potent mixture of vacuity and coercion in the use of the shoulds in her theory of neurosis. In one her most influential essays, “The tyranny of the should” published in *Neurosis and Human Growth*, she wrote of the

. . . enormous coercive power of the shoulds, as the motor force whipping a person into action in the attempt to actualize the ideal self” (Horney, 1991, pp. 84–85; first published 1950).

In this way Horney brought some of the compulsive forces of unreason, stemming from the psychoanalytic unconscious, to the surface. Not in the traditional form of signs and symptoms as grist for the hermeneutic mill, but as words corresponding to the very point at which the energy stemming directly from the Freudian id or indirectly from the constraining power of the super ego is transmitted into the urge to action or inaction. In Horney the shoulds represent the latter, exhortations on behalf of the ideal self, triggered by all too obvious discrepancies between the ideal and actuality. They retain their coercive power even though the conceptual schemes on which they are based are no longer remembered.

Horney was careful to distinguish the dictatorial power of the neurotic’s shoulds from what she considered the following of real moral standards and ideals. Indeed, giving in to the dictatorial power of the shoulds is not just irrational, according to Horney, but immoral (Horney, 1991, p. 73):

The shoulds, therefore, *lack the moral seriousness of genuine ideals*. People in their grip are not striving, for instance, toward approximating a greater degree of honesty but are driven to attain the absolute in honesty . . . There is one further quality of the shoulds that distinguished them from genuine moral standards. . . . That is their *coercive character*. (Horney, 1991, pp. 72–73; author’s italics).



So “I shouldn’t have lied to her”, could be a rational and moral self-reflection, or part of a lacerating and immature self-damnation. Here Horney made a distinction similar to MacIntyre’s, though for her the significant conceptual scheme has not died with the fading of Aristotelean virtue ethics, but is still available to the psychologically healthy. She was thus more optimistic than either MacIntyre or Freud, and she explicitly took issue with Freud on this point:

It was one of Freud’s gravest errors to regard inner dictates. . . . as constituting morality in general (Horney, 1991: 72–73).

MacIntyre might side with Freud here, but only as a symptom of the time, not as a sceptical truth about morality in general. They are pessimistic in different ways, but neither shares the optimism of Horney, which has been a source of criticism but also of her popularity and influence on psychotherapy after the Second World War (Trilling, 1942; Quinn, 1988).

This focus on the coerciveness in the shoulds rather than on unconscious content opened the way for Albert Ellis (1958) to launch Rational Psychotherapy, which has evolved into Rational Emotive Behavior Therapy (REBT), alongside the other, more famous cognitive therapy, Aaron Beck’s Cognitive Behavior Therapy (CBT; Beck, 1963). Ellis, after a training analysis with Charles Hulbert at the Horney Institute, became disillusioned with the lengthy hermeneutic side of the business, with its questionable scientific basis, and concentrated directly on expressed demands themselves, in order to find ways of changing them without worrying about the underlying systems of generation. It is these demands, or the underlying belief systems of which they are a part, and not the objects of emotion themselves, that are the cause of dysfunctional emotion. If the shoulds are based on conceptual schemes and their associated AD, these are unconscious or long forgotten; they perhaps correspond to what Beck has referred to as core schema, which are uncovered during cognitive therapy in order to dispute and change them (Beck et al., 1990).

Unlike Horney (but like Freud), in his early writings Ellis did not clearly distinguish between the coercive, unhealthy shoulds, and those that arise from a rational moral system. He often wrote as though all shoulds are irrational and did not at first describe the conditions under which the use of should can be rational (as we are doing here). Initially his therapy aimed to dispute all shoulds into oblivion. Early in the historical development of the therapy, the disputing became formalised into three rhetorical questions: Does the demand follow logically from the want or desire? Is there an empirical law from which the demand can be logically deduced from the want? Is it useful (does it achieve your goals) to make it into a demand? The first two are akin to the arguments of Hume against the rationality of moral belief and shoulds, which had become, according to MacIntyre, exposed to this attack by the atrophy of the framework or conceptual scheme which formed the basis of their rationality.

But later Ellis made two important distinctions, which correspond to Horney's two senses of "should". First the distinction between conditional and unconditional shoulds. Thus "I must spend more time revising" may be conditional and rational, and can be expanded into "If I want to pass the exam I must spend more time revising". This is a constative (it can be true or false), as well as a performative, drawn from the conceptual scheme or AD that guides students through their college career. Second the distinction between hot and warm cognitions. The student who thinks in lukewarm fashion, "I must spend more time revising" but then happily drifts off to the pub with friends, may have problems as a student, but they are different from those that Ellis was concerned with. For that (and for irrationality) the cognitions must be "hot", and are probably already intertwined with the anxiety the model suggests they cause.

The theory of REBT holds that "warm" cognitions or evaluations almost always accompany—and partially "cause"—feelings or emotions, while "hot" cognitions or strong evaluations almost always accompany—and partially "cause" strong and sustained feelings. When "hot" cognitions are absolutistic and imperative . . . , such "hot" cognitions tend to go with, significantly contribute to, and partially "cause" self-defeating feeling, or what we often call "emotional disturbance" (Ellis, 1994, pp. 60–61).

The heat metaphor is connected with Ellis's later distinction between the "grandiose *musts*" that lie behind (and presumably give heat to) the "unrealistic and illogical self-defeating beliefs" (Ellis, 1994, p. xvi). These often show themselves as what Beck in CBT called ANTS or Automatic Negative Thoughts. In the case of ANTS it is their compulsive immediacy, rather than the heat with which they are held, that gives them their irrational power.

For Horney's neurotic, the conceptual scheme which may once have given substance to the shoulds, has disappeared from sight, as in MacIntyre's thought experiment, or his account of the modern language of morality. If we are right there is a parallel between the philosophical predicament faced by Hume and later philosophers, and that of Horney's neurotic. Like Hume, Ellis's disputing cuts through the vacuity of the shoulds when they are isolated from the conceptual schemes that gave them force. In both cases the shoulds may be linked with strong feeling or persuasive power, but the rational form of words is an illusion (according both to Hume, and to the neurotic who often recognises clearly but to no avail that the demand leading to hand washing or a phobia is not rational). The conceptual schemes are defunct or inaccessible, and there is no flow or interplay in the duality of structures, between conceptual scheme and human agency, or AD and IPD. A similar absence of flow or interplay, and consequently a lack of rationality, has been suspected in the heartlands of modern reason, technology and science. But the structure of this source of irrationality is different from that considered so far. In science and technology the conceptual schemes and AD are very much alive and accessible, and the disruption of interplay that brings rationality into question has other causes. The danger here is that the current power of

AD will inhibit any questioning of the rationality of the shoulds in IPD, in contexts where this questioning would be appropriate and rational. In such circumstances allegiance to the shoulds may be irrational.

#### AUTHORITATIVE DISCOURSE IN MODERN TECHNOLOGY

In *Adventures of Ideas* Whitehead distinguished between a Craft and a Profession, the latter constituting a necessary restriction of freedom in the organisation of modern society. In a profession there is an organised institution which makes it

an avocation whose activities are subjected to theoretical analysis, and are modified by theoretical conclusion derived from that analysis . . . foresight based upon theory, and theory based upon understanding of the nature of things, are essential to a profession . . . The antithesis to a profession is an avocation based upon customary activities and modified by the trial and error of individual practice. Such an avocation is a craft, or at a lower level of individual skill it is merely a customary direction of muscular labour. (Whitehead, 1933, p. 61)

In dialogic terms this parallels the contrast between AD and IPD. The shift from craft to professions was closely linked to modern rationality, through the rise of commerce during the middle ages and technological advances. But also through “The art of clear thinking, of criticism of premises, of speculative assumption, of deductive reasoning” (Whitehead, 1933, p. 87). Thus “Mankind was now armed intellectually as well as physically” (Whitehead, 1933, p. 87). Implicit in Whitehead’s account is a contrast between rationality and trial and error<sup>4</sup>. Rationality belongs especially to the professions and to the disciplines on which they depend. These provide the AD to which reason appeals, not just minirat now, but a rationality justified by the belief systems or conceptual schemes themselves. This is therefore a disciplinary rationality, which we shall refer to as “discrat”, whose articulation is AD<sup>5</sup>.

Whitehead’s distinction is the basis of what Schön called “Technical Rationality”<sup>6</sup>. Schon was critical of the positivist bias of technicality rationality, and optimistically traced its current replacement by Reflection-in-action

When someone reflects-in-action, he becomes a researcher in the practice context. He is not dependent on the categories of established theory and technique, but constructs a new theory of the unique case. . . . He does not separate thinking from doing, ratiocinating his way to a decision which he must later convert to action”. (Schön, 1983, p. 68).

A sympathetic narrative of reflection-in-action is provided by Baxandall’s history of the building of the Forth Bridge, though he does not refer to Schön. Baxandall is an art historian, and his main interest was in the form of the bridge as an aesthetic object. But the form came about through a series of solutions to problems posed by the “charge” to build a bridge, and a “brief”, which takes into account

the specific circumstances, such as the recent Tay bridge disaster, which emphasized the need for a bridge that could withstand high side winds, the silted bottom of the Forth, and the mile long crossing. His “triangle of re-enactment” links together the terms of the problem and culture in a description which gives rise to the Forth Bridge. It is

... a representation of reflection or rationality purposefully at work on circumstances ... If we “explain” the form of the bridge at all, it is only by expounding it as *one* rational way of attaining an inferred end (Baxandall, 1985, p. 36).

In our terms, Baxandall presented the building of the Forth Bridge as a case where the mutual interplay of the duality of structures in rational thinking are maintained. AD is duly followed, but the complexity of the context means that the details are worked out at the level of IPD. But the rationality may be less certain than reflection-in-action implies. There are inertial factors which work against unfettered adaptation to circumstances, as the Gould and Lewontin spandrel effect illustrates. Psychologists have studied this at an individual level under the name of Functional Fixedness (Duncker, 1945). At a social and political level they are the “microtechnologies” which are part of what Michel Foucault called “disciplinary power”. In his work on the development of the “power to colonise” in Egypt, Timothy Mitchell used the ideas of Foucault to distinguish between the traditional view of power as an exterior restriction, and disciplinary power, which

... works not from the outside but from within, not at the level of an entire society but at the level of detail, and not by restricting individuals and their actions but by producing them. ... Power relations do not simply confront (the modern) individual as a set of external orders and prohibitions. His or her very individuality, formed within such institutions, is already the product of those relations (Mitchell, 1991, p. xi).

So it is hard, perhaps impossible, for the agent immersed in these processes to step back and reflect on them, to move outside the hold of disciplinary power even when the context requires it. These factors, the spandrel effect, functional fixedness, and disciplinary power appear as limitations to rationality, especially if the agent is oblivious of them, which seems inevitable if “. . . individuality is already the product of those relations”. Thus disciplinary power represents a way in which AD can maintain itself by suppressing unwelcome variations in IPD.

The results, scrutinised in Mitchell’s analysis of the aftermath of the building of the Aswan dam, may be seen in AD as a triumph of rationality. The reality was messier. Seeking to understand the origins of the malaria epidemic of 1942, which killed between one and two hundred thousand people, Mitchell showed how technological progress (the completion of the Aswan Dam, which brought about a new system of irrigation which depended upon the use of chemical fertilizers), combined with the shortages of war (no fertilizers were available during the second world war) and other changes brought about by the war, were

factors that led to the spread of the *Anopheles gambiae*, which carried the malignant form of the malaria parasite responsible for the epidemic. The reality operates at the level of disciplinary power (the experts and workers in the field) pitted against much that is unrecognised or unacknowledged, in this case the lethal potential of the mosquito, and other nonhuman agents.

If the web of events in wartime Egypt offers a certain resistance to explanation, part of the reason may be that it includes a variety of agencies that are not exclusively human . . . (that) make possible a world that somehow seems the outcome of human rationality and programming . . . How is it, we need to ask, that forms of rationality, planning, expertise, and profit arise from this effect? (Mitchell, 2002, p. 30).

Not presumably in the transparent way described by Baxandall in his account of the building of the Forth Bridge. A benign form of disciplinary power is visible there, as the bridge builders drew on the AD of engineering and metallurgy, and adapted them to circumstance, and it is this visibility that gives the appearance of rationality in action. But Foucault had in mind a hidden form of disciplinary power. Like the “shoulds” of Horney’s neurotic, the source of the coercions of disciplinary power are not easily opened to inspection, and are not included in the charge and the brief concerned. Discrat is ambivalent, since the confident shoulds of disciplinary rationality itself are always shadowed by the potentially irrational shoulds of disciplinary power.

#### AUTHORITATIVE DISCOURSE IN SCIENCE

Science has assumed a special relationship with rationality, and the interplay there between AD and IPD provides a model to which other disciplines aspire. This earlier confidence has been tempered lately, partly since Kuhn (1962) argued, or appeared to argue, that the *development* of science is not entirely a rational process. Apparently irrational intrusions in the steady, rational march of progress are often examples of science at its most impressive, or what Kuhn referred to as revolutionary science, which coincides with a thorough shake-up of the old AD. Einstein’s theories of relativity were an example, which challenged the traditional AD that constrained earlier physicists to think in Newtonian terms. Einstein’s painful resistance to this and search for an alternative has been described by Wertheimer (1961). He overcame an inertia which is functional fixedness at an individual level, the spandrel effect and disciplinary power at a social or political level. In the language of philosophy of science, these are similar in their effects to the “protective belt” of a science, which ensures that the “hard core” is not put at risk by searching examination (Lakatos, 1970).

Thus inertial factors other than rational thinking have seemed to play a part, and examination of these has given rise to a distinct discipline, the sociology of scientific knowledge. The narratives of science that have emerged from this discipline

are far from the more triumphalist accounts of science as the selfless search for truth and knowledge. They are more like accounts of the day to day activities of lawyers or business people or builders of bridges, success stories and rational enough in their way, but with much else besides. Instead of human frailty and disciplinary power being held in check in the service of the search for knowledge, these are inseparable from the scientific activity itself. Such exposure was seen by some scientists to question the absolute nature of scientific truth, and to undermine pure science at a material level, by threatening the supply of funds for research. This perceived threat to the AD of science gave rise to the science wars of the 1990's.

The wars were the result of the kind of process described by Horney and Ellis. An ideal was thought to be under attack and this led to an amplification of the demands on its behalf. There were insulting counter attacks, and the frequent use during those battles of the epithet "pseudoscience" (Still and Dryden, 2004). There is a coercive, irrational quality in the hot use of "pseudoscience", implying exclusion from the debates and privileges that go with being in the system.

An example of this process is provided by the work of Mario Bunge, a distinguished senior philosopher of science, whose *magnum opus* of 40 years ago (Bunge, 1967) was an explicitly pedagogical work on scientific research, and the nearest thing available to an AD on the subject. His rhetoric fully justified the war metaphor for the disputes of the 1990's. His main target was postmodernism, and its infiltration into the Humanities, though it is clear from the disputes that led to the war that the real threat was from the sociologists of knowledge, and their presumption in taking a reflective look at science as a practice (Still and Dryden, 2004).

Historically, the chief villain was Edmund Husserl, who appears as the decadant parent of anti-scientific barbarians: existentialism ("no ordinary garbage: it is unrecyclable rubbish", (Bunge, 1996, p. 97)); phenomenological sociology ("an invitation to sloth", Bunge, 1996, p. 99); and Ethnomethodologists (who "invoke the . . . declared enemies of science", Bunge, 1996, p. 99). His own words condemn him. In his "celebrated attack on the exact and natural sciences" (Bunge, 1996, p. 98) in *Cartesianische Meditationen*, Husserl described his phenomenology as "in utmost opposition to the sciences as they have been conceived up until now, i.e. as objective sciences" (Bunge, 1996, p. 98; Bunge's translation).

But as in the rhetoric of the "war on terror", anything goes when civilization is under threat. His translation of the German word *Gegensatz* as "opposition" is unusual and misleading here. In the standard translation of the German passage Husserl describes his phenomenology as forming "the *extremest contrast to sciences in the hitherto accepted sense*, positive, 'Objective' sciences." (Husserl, 1973, p. 30; author's italics). The meaning there is quite different, and "contrast" accords with Husserl's philosophy as a whole, as well as the context in this book. Bunge makes his compelling point by his selective translation of *Gegensatz*, perhaps justified in order to bring about "a renewal of the academy's traditional devotion to canons of

reason” (Gross and Levitt, 1996, p. 55). Like MacIntyre, but for different reasons, Bunge believed that the barbarians are not just beyond the frontier, but are already in our midst, though not yet governing us. They threaten the conceptual schemes and AD of science, and like terrorists they don’t play by the rules, so the war against them may require the suspension of the standards of human dialogue that hold in happier times.

To some extent AD in science and other modern disciplines depends for its power upon its claim to embody rationality, detached from the mutual relation with IPD. Given this, unchecked IPD is potentially a threat, sometimes warranting the drastic rhetoric of Bunge and other warriors of the science wars. But if Foucault is right and modern individuality is constructed through networks of disciplinary power in the service of production, there seems little room for real resistance, and no cause for such fears. The real threat is to the creativity of IPD not to AD. Discussing this, Michael and Still suggested that Ecological Psychology guarantees a source of experience which is available as resistance on the part of IPD (Michael and Still, 1992; Still, 2001, discusses the realism implied by these views). It is therefore able to challenge the legitimacy of the coercive shoulds when the conditions for rationality are no longer present. This idea that experience can provide a source of resistance to coercive, irrational shoulds, that is beyond the range of AD and disciplinary power stems from William James’ “Psychologist’s Fallacy” (Reed, 1990).

#### RATIONALITY AND THE PSYCHOLOGIST’S FALLACY

The psychologist of this fallacy was no less a figure than Hermann von Helmholtz. In the nineteenth century Helmholtz stood out as an exemplary man of science and reason, a peak of rationality acknowledged by all scientists. In his *Physiological Optics* he showed the world, as it now seems, how experimental psychology can be scientific without introspection. But in addition he was a great physicist, and in his work on Conservation of Energy he mapped the boundaries of reason applied to the physical world. There are no non-material sources of energy, and therefore magic and miracles along with freedom of the will were banished to be the topic of a different, non-scientific and non-rational discourse, whose objects have no reality, but are the product of fraud or wishful thinking. Here was a far-reaching addition to the AD of science, showing how the world should be thought about.

Even while the implications of Helmholtz’s law were sinking in, powerful movements were beginning that openly flouted the shoulds he established for rational discourse about the world. Thus soon after the publication of Helmholtz’s work in 1847, the Fox sisters began to hear rappings in their house which they attributed to non material powers (Carroll, 1997). This received far more publicity than the law of Conservation of Energy, and was one of the early events of the spiritualist

movement, whose supposition of extra-physical forces in one form or another conflicted with Helmholtz's law.

William James was a trained scientist, who fully appreciated the force of Helmholtz's thinking in *Physiological Optics*, which "I imagine to be one of the four or five greatest monuments of human genius in the scientific line" (James, 1890, vol II, p. 278). But this did not deter him from pursuing his interest in paranormal phenomena represented so dramatically by the rappings heard by the Fox sisters. However, this confident pluralism was hard-earned. During the 1860's James was tormented to despair by the conflicting shoulds of scientific determinism and human morality; the first made free will impossible, the second could not do without it. His resolution of the dilemma was to treat belief ultimately as a matter of decision and action rather than conclusive logic, so that in 1870 he could write in his notebook: "My first act of free will shall be to believe in free will" (James, 1926, p. 147).

This famous declaration, with its implicit subversion of Helmholtz's law, might seem to turn away from rationality and empirical science, where belief is not a matter of choice, but of being true to the facts. But later James showed how Helmholtz and other paragons of rationality do much the same, but with less awareness of what they are doing, when they apply their unexamined scientific AD to psychological phenomena. He called this the Psychologist's Fallacy:

The great snare of the psychologist is the confusion of his own standpoint with that of the mental fact about which he is making his report. (James, 1890, vol I, p. 196)

James gave an example of this fallacy in his analysis of the stream of thought. In a thought like "The pack of cards is on the table" philosophers or psychologists had assumed that it is made of a number of different ideas, a "*manifold of coexisting ideas*" (James, 1890, vol II, p. 278). Rationalists had supposed that the manifold is synthesized by an ego, while associationists believed that parts add together in a process akin to chemistry. Both are guilty of the Psychologist's Fallacy, because they assume, in an unexamined belief drawing on a long tradition of AD, that there *must* be a "*manifold of coexisting ideas*". James's radical assertion was to deny this in the name of experience:

. . . the notion of such a thing is a chimera. Whatever things are thought in relation are thought from the outset in a unity, in a single pulse of subjectivity, as single psychosis, feeling or state of mind (James, 1890, vol II, p. 278)

James was not primarily attempting to replace a rational scientific system of belief with an alternative system. He was not just trying to reform the traditional AD, but to identify and practice a different but equally essential aspect of rationality, not embedded in a conceptual scheme, but applicable universally, even in the face of failures of the kind identified by MacIntyre. He showed how to resist being overwhelmed by the demands and shoulds of AD, through stepping back and reflecting in the realm of IPD. There was nothing new in doing this, but by



articulating it James showed how an apparent critique of Discreat opens the way to a more complete rationality. This key point was taken up and elaborated by two otherwise very different writers of the first half of the twentieth century, Edmund Husserl (Bunge's *bête noire*) and John Dewey.

Husserl read William James closely (Herzog, 1995), especially the *Principles*, and it is hard to imagine Husserl's *The Phenomenology of Internal Time-Consciousness* (1964) without James' writings on the stream of thought. James's attempt to step back and reflect on what is actually there, free of all preconceptions, is akin to Husserl's dictum "back to the things themselves" ("*zu den Sachen selbst!*"). This gave rise to his phenomenological method, of suspending judgement or bracketing the world in the *epoché* in order to describe what is essential in experience for our perceptions and intuitions of reality. This was a refusal to abide by the demands of the shoulds, and led to what he referred to as a rigorous philosophy. It was different from science, but *pace* Bunge he was not against science or the achievements of science, though he was critical of positivism. In his final and sometimes despairing *The Crisis of European Science* he began by paying homage to the achievements of physics, to Newton as well as Einstein, but then pointed out how after the Renaissance the positivist narrowing of science had left behind questions about

man as a free, self-determining being in his behaviour toward the human and extra-human and free in regard to his capacities for rationally shaping himself and his surrounding world (Husserl, 1970, p. 6).

The Renaissance legacy had enabled science to claim an authority, and to elaborate an AD, with a universality free of all contexts.

John Dewey was not a disciple of William James, but they both considered themselves pragmatists and there was a persisting mutual influence. Dewey's most famous paper (Dewey, 1896) applied James's insight into the psychologist's fallacy, and his critique of the assumed "*manifold of coexisting ideas*", to the manifold of stimulus-response psychology, or what he called the "reflex arc". Throughout his long career Dewey was interested in developing a theory of logic which could do justice to his pragmatic philosophy. This was the logic of inquiry. He struggled to get it taken seriously during his lifetime, but it was increasingly overshadowed by developments in formal logic; Bertrand Russell was a persistent critic, and philosophers were probably deterred by his refusal to take Dewey seriously as a logician. But recently there has been a revival of interest in the logic of inquiry, as some logicians and philosophers linked with developments in cognitive science have turned away from traditional formal logic towards a situational logic akin to that offered by John Dewey (Barwise and Perry, 1983; Burke, 1994). Describing the logic of inquiry from within this new tradition, Burke detected two aspects; a linear movement towards a resolution of a problem (sometimes, especially in science, towards what Dewey referred to as a warranted judgement); and a cyclical movement similar to trial and error:

The agent observes the results of his/her/its actions, entertains possible courses of action and expected results based on those observations, experiments with more feasible alternatives to test their viability, observes the results of such experimentation, and around it goes—a process of exploring facts of the matter and narrowing the range of possible actions one can take, until, hopefully, a solution to the initial problem is settled on (Burke, 1994, p. 160)

Insofar as this is a perceptual process, Burke argued that

A notion of noncognitive rationality is suggested here, measured by the appropriateness of given habits in given instances. The rationality involved in determining which habits are triggered in a given instance and which are not is a function of the systematicity of the space of constraints and processes which make up the contents of various habits, matched against whatever actions and results are actually occurring in the present situation (Burke, 1994, p. 161).

This is not primarily the application of an AD to the situation at hand, but an immersion in the situation itself. The train of thought is not that from a confident definition of the situation to an appropriate solution, but a return to the situation itself armed with a set of “Habits” to try out possible solutions or ways forward. There is an effort to see the situation in a new and more appropriate way, potentially resisting the demands of AD in favour of experience in the situation at hand.

The achievement of these writers was very different, but they shared a commitment to a process that James first described in writing of the psychologist’s fallacy. First a refusal to be carried away by what is assumed to be the case (the AD of the time and the shoulds derived from it), often in the name of rationality itself, but also political or financial necessity. Second a stepping back to examine and describe what is actually the case. Third would be to act or write on the basis of this new way of seeing the case. If Burke is right this process is at the heart of the logic of inquiry. It is trial and error as a process of thought<sup>7</sup>. This is not, as some earlier writers believed, an inferior kind of thinking, below true rationality (identified with *discrat*), but a necessary part of rationality itself, emancipating from the *irrational* application of *discrat* in the psychologist’s fallacy. It is therefore referred to here as “*emanrat*”. Human rationality is a balance between *discrat* and *emanrat*, or between AD and IPD, part of the dynamic mutuality implicit in duality of structures.

#### CONCLUSIONS

In this paper we have described rationality as a relationship between conceptual schemes (or authoritative discourse) and human agency (or internally persuasive discourse), where the former’s hold on the latter is through the demands of the shoulds. Often, as in MacIntyre’s account of Aristotelean virtue ethics, and as contained in the hill-walking example, there exists a mutual interplay in this duality of structures. The conceptual schemes are constituted by human agency yet

are at the same time the medium of human agency. When this mutual relationship breaks down then rationality comes into question. Breakdown occurs in two ways. First, when the effective conceptual schemes or authoritative discourse are invisible, and the origin of the shoulds becomes obscured. In MacIntyre's *After Virtue*, the current conceptual scheme has lost contact with the framework which gave it sense. The same may be true of neurosis, where the core schema or idealisations that arose from forgotten experiences in childhood, are no longer appropriate to the world of adulthood.

Second, in technology and science the mutual relationship is sometimes strained, not because the conceptual schemes are debilitated, but because the interplay can be suppressed when authoritative discourse is threatened by novel contexts. The power of authoritative discourse can prevent the open-minded examination of situations through internally persuasive discourse, and this is realised through the microtechnologies of disciplinary power, as well as the related spandrel effect, functional fixedness and protective belt. When this occurs the world may be increasingly perceived through the medium of authoritative discourse and the conceptual schemes behind it.

Although these two sources of irrationality in the space of reasons are different, the antidote, emancipatory rationality, is the same. In psychotherapy Carl Rogers (1974) developed a therapy in which the client is offered acceptance of him or herself as a person. By cultivating unconditional positive regard, the therapist suspends judgement and criticism, inviting an exploration of internally persuasive discourse, rather than any appeal to authoritative discourse. As a result clients can become less defensive and more able to step back and reflect, especially on the demands they put on themselves through the shoulds. The clearest form of this has been spelt out by Gendlin (1981, 1997), who has combined in his writings and his psychotherapy the practices of Husserl and Rogers. The result is "focussing", a way of getting in touch with what Gendlin calls the felt sense, which reflects what is really important to the client and is ordinarily suppressed by the clamour of competing shoulds. In effect, the client goes back to the things themselves and begins to understand more clearly what is important. He or she is restored to the space of reasons.

In the cognitive therapies of Ellis and Beck the client is also invited to step back with the therapist, in order to be able to reflect on dysfunctional patterns of thought and feeling. This is done more explicitly and vigorously than in person-centred therapy. New conceptual schemes are created by articulating the client's goals, and the thinking processes, especially the shoulds, are actively challenged in the name of rationality. Thus disciplinary rationality is brought to bear on the irrational shoulds, though an essential part of the therapy is the emancipatory rationality of stepping back and reflecting. It cools the hot cognitions, and halts the automaticity of Automatic Negative Thoughts, prior to the application of disciplinary rationality. The stepping back and reflecting has been made explicit through the incorporation of the Buddhist practice of mindfulness as part of cognitive therapy (Kabat-Zinn, 1990; Segal et al., 2001)<sup>8</sup>.

In technology and science emancipatory rationality also enables the agent to detach from the demands of authoritative discourse and the shoulds, and in principle see and question the irrational sources of these demands. In this way Einstein cut through the spandrel effect and the functional fixedness in the Physics of his time, and produced what has been celebrated as a great triumph of rationality. In technology problems are routinely resolved through emancipatory rationality, by stepping back and reflecting, and finding novel solutions in the manner of Dewey's logic of inquiry. This occurs in small scale projects, but also on a much bigger scale, as Baxandall described in the construction of the Forth Bridge. But scale is crucial here; the larger the scale the greater the opportunity for irrational shoulds to emerge, through the spandrel effect, functional fixedness and disciplinary power. Gripped by disciplinary power, and faced with a variety of unknowns, it can be hard to see the irrationality in the midst of apparent rationality. Failing to recognise this version of the psychologist's fallacy, it is tempting to push ahead regardless, as Tim Mitchell was able to bring out in his retrospective analysis. He described a disaster that could perhaps have been foreseen with difficulty at the time, but it is nothing to the disasters and the difficulties promised by the human technological contributions to issues that exercise us at present, such as global warming.

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## NOTES

<sup>1</sup> The potential power of this distinction between authoritative discourse and internally persuasive discourse is brought out in the editors' glossary to Bakhtin (1981): Authoritative Discourse "... is privileged language that approaches us from without; it is distanced, taboo, and permits no play with its framing context. We recite it. It has great power over us, but while in power; if ever dethroned it immediately becomes a dead thing, a relic. Opposed to it is *internally-persuasive discourse*, which is more akin to telling a text in one's own

words, with one's own accents, gestures, modifications. Human coming-to-consciousness, in Bakhtin's view, is a constant struggle between these two types of discourse: an attempt to assimilate more into one's own system, and the simultaneous freeing of one's own discourse from the authoritative word, or from previous earlier persuasive words that have ceased to mean" (Bakhtin, 1981, pp. 424–5).

<sup>2</sup> Of course it is not just words that change, or even conceptual schemes. As Danziger pointed out it is the discursive formations of which words form part that change. A discursive formation is

... a language that constitutes an integrated world of meanings in which each term articulates with other terms so as to form a coherent framework for representing a kind of knowledge that is regarded as true and a kind of practice regarded as legitimate (Danziger, 1997, p. 13).

If a conceptual scheme is a part of a discursive formation, then what seems to have happened, according to MacIntyre, is a disruption of the discursive formations of morality, due to loss of the significance of the conceptual scheme that once held them together. The words continue to be used as though they have the old meaning.

<sup>3</sup> Others, notably Davidson (1980) have argued that reasons can be causes, but even if this is accepted the distinction discussed by Brinkmann still applies, though we would label it differently. We agree that reasons are part of the normative order, whether or not they are causes, and following Brinkmann's treatment of normative orders and the space of reasons as more or less interchangeable, we attempt to avoid controversy by relabelling what Brinkmann refers to as the space of causes as the nonnormative order, which is similar to Yurchak or Austin's "constative".

<sup>4</sup> A craft is an avocation "based upon customary activities and modified . . . by trial and error". Whitehead was assuming an accepted contrast between rationality and trial and error, which is probably due to Lloyd Morgan (1894).

<sup>5</sup> Although in this paper we refer to the disrats of technology and science, modern religions and academic disciplines have their own disrats, and Whitehead's historical split between craft and profession could provide a similar narrative for these.

<sup>6</sup> Schön (22) quotes Moore, whose book *The Professions* made use of Whitehead's distinction, but in Schön the distinction has become that between an avocation and a profession, which seems to miss Whitehead's historical point. For Whitehead a profession is an avocation drawing on the rationality of the Western intellectual tradition.

<sup>7</sup> This is different from both random trial and error, and from Karl Popper's use of the term as "Conjectures and Refutations" (Popper, 1978). It is closer to Popper's use, but he made trial and error part of the disrat of science, whereas we are treating it as a source of resistance to the disciplinary power and other sources of inertia emanating from that disrat.

<sup>8</sup> The affinities between mindfulness and Husserl's *epoché*, or bracketing the world, have been discussed in Still and Dryden (2006). A similar application of emanrat may meet MacIntyre's strictures by restoring rationality to moral discussion. This has been addressed in Still and Dryden (1999).

## REFERENCES

- BAKHTIN, M.M. (1981). *The Dialogic Imagination: four essays*. Austin: University of Texas Press.  
 BARWISE, J. & PERRY, J. (1983). *Situations and Attitudes*. Cambridge, Massachusetts: MIT Press.  
 BAXANDALL, M. (1985). *Patterns of Intention*. New Haven, CT: Yale University Press.

- BECK, A.T. (1963). Thinking and depression. *Archives of General Psychiatry*, 9, 324–333.
- BECK, A.T., FREEMAN, A. & ASSOCIATES (1990). *Cognitive Therapy of Personality Disorders*. New York: Guilford Press.
- BRINKMANN, S. (2006). Mental life in the space of reasons. *Journal for the Theory of Social Behaviour*, 36: 1–16.
- BUNGE, M. (1967). *Scientific Research*. 2 vols. Berlin: Springer-Verlag.
- BUNGE, T. (1996). In praise of intolerance to charlatanism in academia. In P.R. Gross, N. Levitt, & M.W. Lewis (Eds.) *The Flight from Science and Reason*. (pp. 96–115). New York: New York Academy of Sciences.
- BURKE, T. (1994). *Dewey's New Logic: a reply to Russell*. Chicago and London: University of Chicago Press.
- CARROLL, B.E. (1997). *Spiritualism in Antebellum America*. Indianapolis: Indiana University Press.
- DAVIDSON, D. (1980). *Essays on Actions and Events*. Oxford: Oxford University Press.
- DEWEY, J. (1896). The reflex arc concept in psychology. *Psychological Review*, 3, 357–370.
- DEWEY, J. (1938). *Logic: the theory of inquiry*. New York: Henry Holt.
- DANZIGER, K. (1997). *Naming the Mind*. London: Sage.
- DRYDEN, W. & STILL, A.W. (1999). When did a psychologist las discuss “chagrin”? America's continuing moral project. *History of the Human Sciences*, 12, 93–110.
- DUNCKER, K. (1945). On problem solving. *Psychological Monographs*, 58:5 (Whole No. 270).
- ELLIS, A. (1958). Rational psychotherapy. *Journal of General Psychology*, 59: 35–49.
- ELLIS, A. (1994). *Reason and Emotion in Psychotherapy*. (2nd ed.). New York: Carol Publishing.
- FOUCAULT, M. (1980). Two lectures. In C. Gordon (ed.) *Power/Knowledge: selected interviews and other writings 1972–1977*. (pp. 78–108). Brighton: Harvester Press.
- GENDLIN, E.T. (1981) *Focussing*. New York: Bantam Books.
- GENDLIN, E.T. (1997). *Experiencing and the Creation of Meaning: a philosophical and psychological approach to subjective*. Evanston, Illinois: Northwestern University Press.
- GERTH, H.H. & MILLS, C. WRIGHT (1958). *From Max Weber: Essays in Sociology*. New York: Oxford University Press.
- GIDDENS, A. (1976). *New Rules of Sociological Method*. New York: Basic Books.
- GIGERANZER, G. (2000). *Adaptive Thinking: rationality in the real world*. New York: Oxford University Press.
- GIGERANZER, G. & SELTEN, R. (Eds.) (2000). *Bounded Rationality: the adaptive toolbox*. Cambridge, MA: MIT Press.
- GOULD, S.J. & LEWONTIN, R.C. (1979). The spandrels of San Marco and the Panglossian paradigm: a critique of the adaptationist programme. *Proceedings of the Royal Society, London*, B 205, 581–598.
- GROSS, P.R., LEVITT, N. & LEWIS, M.W. (Eds.) *The Flight from Science and Reason*. New York: New York Academy of Sciences.
- HACKING, I. (1995). *Rewriting the Soul: multiple personality and the sciences of memory*. Princeton, NJ: Princeton University Press.
- HERZOG, M. (1995). William James and the development of phenomenological psychology in Europe. *History of the Human Sciences*, 8: 29–46.
- HORNEY, K. (1991). *Neurosis and Human Growth*. New York: Norton.
- HUSSERL, E. (1964). *The Phenomenology of Internal Time-Consciousness*. Bloomington: Indiana University Press.
- HUSSERL, E. (1970). *The Crisis of European Science and Transcendental Phenomenology*. Evanston: Northwestern University Press.
- JAMES, W. (1890). *The Principles of Psychology*, (2 vols). New York: Holt.
- JAMES, W. (1926). *The Letters of William James, Vol 1*. (Ed. H. James). London: Longmans, Green and Co.

- KABAT-ZINN, J. (1990). *Full Catastrophe Living: using the wisdom of your body and mind to face stress, pain, and illness*. New York: Delacorte.
- KUHN, T.S. (1962). *The Structure of Scientific Revolutions*. Chicago: University of Chicago Press.
- LAKATOS, I. (1970). Falsification and the methodology of scientific research programmes. In I. Lakatos & A. Musgrave (Eds.) *Criticism and the Growth of Knowledge*. (pp. 91–195). Cambridge: Cambridge University Press.
- LAVE, J. (1988). *Cognition in Practice*. Cambridge: Cambridge University Press.
- MACINTYRE, A. (1981). *After Virtue: a study in moral theory*. London: Duckworth.
- MICHAEL, M. & STILL, A.W. (1992). A resource for resistance: power-knowledge and affordance. *Theory and Society*, 21, 869–888.
- MITCHELL, T. (1991). *Colonising Egypt*. Berkeley and Los Angeles: University of California Press.
- MITCHELL, T. (2002). *Rule of Experts*. Berkeley and Los Angeles: University of California Press.
- MORGAN, C.L. (1894). *An Introduction to Comparative Psychology*. London: Scott.
- NEWTON-SMITH, W.H. (1981). *The Rationality of Science*. London: Routledge & Kegan Paul.
- POPPER, K.R. (1978). *Objective Knowledge: an evolutionary approach*. Oxford: Oxford University Press.
- QUINN, S. (1988). *A Mind of her own: the life of Karen Horney*. New York: Addison-Wesley.
- REED, E.S. (1982). Darwin's earthworms: a case study in evolutionary psychology. *Behaviorism*, 10: 165–185.
- REED, E.S. (1990). Space perception and the psychologist's fallacy in James's *Principles*. In M.G. Johnson & T.B. Henley (Eds.) *Reflections on The Principles of Psychology: William James after a century*. (pp. 231–247). Hillsdale, New Jersey: Lawrence Erlbaum.
- ROGERS, C. (1974). *On Becoming a Person*. London: Constable.
- ROSENBERG, H. (1987). *Impasse and Interpretation*. London: Tavistock Publications.
- SCHÖN, D.A. (1983). *The Reflective Practitioner: how professionals think in action*. London: Temple Smith.
- SEGAL, Z.V., WILLIAMS, J.M.G., & TEASDALE, J.D. (2001). *Mindfulness-Based Cognitive Therapy for Depression: a new approach to preventing relapse*. New York: Guilford Press.
- SHOTTER, J. (1983). "Duality of structure" and "intentionality" in an ecological psychology. *Journal for the Theory of Social Behaviour*, 20(1): 19–41.
- SIMON, H.A. (1956). Rational choice and the structure of environments. *Psychological Review*, 63, 129–138.
- STILL, A.W. (2001). Reflections on Loughborough realism. *History of the Human Sciences*, 14(3): 108–113.
- STILL, A.W. & DRYDEN, W. (1998). The intellectual origins of rational psychotherapy. *History of the Human Sciences*, 11, 63–86.
- STILL, A.W. & DRYDEN, W. (2004). The social psychology of "pseudoscience": A brief history. *Journal of the Theory of Social Behaviour*, 34, 265–290.
- STILL, A.W. & GOOD, J.M.M. (1992). Mutualism in the human sciences. *Journal of the Theory of Social Behaviour*, 22(2): 105–128.
- STILL, A.W. & GOOD, J.M.M. (1998) The ontology of mutualism. *Ecological Psychology*, 39(1): 39–63.
- TILLY, C. (2006). *Why? What happens when people give reasons . . . and why*. Princeton, NJ: Princeton University Press.
- TRILLING, L. (1942) The Progressive Psyche. *Nation*. Sept 12, 215–217.
- WERTHEIMER, M. (1961). *Productive Thinking*. London: Tavistock Publications.
- WHITEHEAD, A.N. (1933). *Adventures of Ideas*. Harmondsworth, Middlesex: Penguin Books.
- WINCH, P. (1958). *The Idea of a Social Science and its Relation to Philosophy*. London: Routledge & Kegan Paul.
- YURCHAK, A. (2006). *Everything was forever, until it was too late: the last Soviet generation*. Princeton, NJ: Princeton University Press.