FROM LACAN TO DARWIN

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This is the story of an intellectual journey. It starts with my enthusiastic embrace of the ideas of the French psychoanalyst, Jacques Lacan, and ends with my eventual rejection of those ideas, some five years later. Between those two events, I wrote a book about Lacan, which has since become a standard reference text for those working with Lacanian theory (Evans, 1996). Nowadays, eight years after the dictionary was published, I occasionally receive emails from puzzled Lacanians who have noticed that the author of one of the key reference books in their field has gone on to write other books with such obviously non-Lacanian titles as Introducing Evolutionary Psychology (Evans, 1999). The most interesting thing about these emails is not so much their content as their tone, which tends to be one of shock, dismay or anger that a former disciple should have betrayed the faith so completely. They may not use such religious references explicitly, but it is clear from their vexation that it is more than just an intellectual matter for these correspondents. They do not see my change of mind as the result of an honest and sincere search for truth, but as a betrayal, an apostasy, a fall from grace. This essay is an attempt to go beyond such simplistic descriptions, and explain exactly how and why I came to change my mind.

Before I begin my story, however, I should perhaps first explain why it belongs in a book about literary theory. Lacan was a psychoanalyst, and not a literary critic – a fact that would hardly need stating in those parts of the world, such as France and Latin America, where his ideas are known to more than a tiny minority. Go to a psychoanalytic clinic in Paris, or psychiatric hospital in Buenos Aires, and the chances are you will find a therapist putting Lacan's ideas into clinical practice. In the English-speaking world, however, hardly any therapists have even heard of Lacan. In Britain, America and Australia, the few people who have tend to be literary critics and cultural theorists. In these countries, Lacanian ideas are used primarily as tools for critiquing works of literature and other cultural artefacts. But whatever use you put a set of ideas to, nothing useful is going to come out if the ideas themselves are fundamentally flawed. Whether used in the clinic or the seminar room, Lacan's ideas are hopelessly inadequate because they are predicated on a false theory of human nature. I came to realise this when I started to treat patients – the clinical reality did not fit with Lacan's theory. Literary scholars are less likely to notice the discrepancy, since textual interpretation is much more malleable than phobias, panic attacks and other symptoms experienced by real, live human-beings. It is my hope that, by sharing my intellectual journey with those literary scholars who still use Lacanian theory, they may also come to realise the inadequacy of Lacan's conceptual edifice.

Lacan in Argentina

I first came across Lacan when I was working in Argentina in 1992. Much to my surprise, I

discovered that psychoanalysis was a major cultural force there. In fact, there are more psychoanalysts per capita in Buenos Aires than anywhere else in the world, even New York. The prestige and authority attached to psychoanalysis in Buenos Aires came as quite a shock to me, coming as I did from a cultural milieu in which Freud was almost completely absent, and held in low regard. For I had recently graduated from a British University, where I had studied linguistics within a thoroughly Chomskian framework. In Britain, you can graduate in a cognitive science like linguistics or psychology without ever reading anything by Freud. In Argentina, over seventy per cent of a typical psychology degree was given over to psychoanalysis. And much of that was specifically Lacanian.

The different value attached to psychoanalysis in Argentina made me call into question the received view in Britain. Why had I simply gone along with the dismissive attitude to Freud present in my own country, rather than judging it for myself? Who was to say that the received view in Britain was superior to the received view in Argentina? I began to suspect myself of being rather ethnocentric in my views about knowledge.

Curious to know more, I teamed up with some Argentinian psychoanalysts who used to meet on a weekly basis to study the works of Lacan. As Lacan drew heavily on both Freud and linguistics, it seemed like a mutually beneficial exchange; they could help me get to grips with Freud, and I could help them get to grips with linguistics. I soon discovered, however, that the sort of linguistics that interested Lacan was very different from the sort that I had studied at university. Lacan hardly ever mentioned Chomsky's work, and when he did, he didn't seem to think much of it. The linguist to whom Lacan referred most often was Ferdinand de Saussure, whom I had studied in literary theory rather than linguistics proper. So I couldn't contribute much to the weekly meetings after all. But that didn't matter, for by the time I realised this I was already hooked.

Lacan's seminars were an intellectual feast. The range of cultural references was breathtaking and beguiling. One moment Lacan might be dissecting the Sophoclean tragedies with minute attention to detail; the next, he could be offering a satirical reductio of Kant's moral philosophy, before diving into a clinical vignette and finishing off with a discussion of a statue by Bernini. And all without the slightest concession to the beginner! Here was a renaissance man in command of a vast intellectual landscape, an intellectual of the kind one finds only in France! And he didn't condescend to his audience; he expected his listeners to be as familiar with all these diverse cultural references as he seemed to be. One felt priveleged to sit at the feet of such a teacher and listen.

The problem was, of course, that I wasn't familiar with more than a few of these references. Nor were the other members of my study group. So we spent a lot of our time getting to grips with the original sources on which Lacan drew. There were so many that we always felt we were missing something. Lacan's real message was always just out of our reach. Near enough to make us think we could probably understand it if we just did a bit more studying; but somehow, no matter how much studying we did, his message always seemed to recede, like the end of a rainbow. It was this, of course, that made his seminars so intoxicating, so addictive.

That's when I started to keep notes for myself about the terms of art that Lacan used most

frequently in his seminars and writings. It began as a database of citations that I kept on my laptop, and gradually expanded as I added glosses and cross-references. In this way, I built up an increasingly detailed map of Lacanian terms and concepts, a document that was simultaneously a record of my own path of discovery. For those who are unfamiliar with Lacan's work, it might be helpful at this point to highlight some of the principal landmarks I observed in this exotic terrain. Readers who are already well-versed in Lacanian theory may wish to skip the next few paragraphs.

- *The mirror stage*: Lacan was much taken with an observation by the French psychologist, Henri Wallon, of the different ways that human infants and young chimpanzees react to seeing their reflection in a mirror. According to Wallon, young children are fascinated by their reflections, whereas chimpanzees quickly lose interest. For Lacan, this difference revealed a fundamental human tendency to be mesmerised by visual images, to live in the world of 'the imaginary'. There are interesting parallels between this idea and Marx's concepts of alienation and ideology, Durkheim's anomie, and even Satre's 'bad faith'.

- The symbolic order: The only way for people to escape the illusions of the imaginary is to uncover the linguistic symbols that shape those illusions. Just as Marx thought that ideology was a product of, and a cover for, economic forces, so Lacan saw the imaginary world as a product of and a cover for linguistic forces. *It was not the stream of pictures passing across the mind's eye that determined human behaviour, but the unconscious web of words and phrases that lay beneath the images.*

- Psychoanalytic treatment was, therefore, principally about speech. Lacan denounced the way that his contemporaries in the psychoanalytic movement had come to neglect the role of speech in psychoanalytic treatment, and argued that the treatment should revolve around the linguistic analysis of the patient's utterances. Hence the emphasis Lacan placed on linguistics.

- The subject-supposed-to-know: Lacan did not believe that psychoanalysts should think of *themselves* as experts, able reveal the hidden meaning of the patient's speech, but he did believe that the *patient* should think of the analyst that way. The analyst, in other words, did not really possess a secret knowledge, but was merely 'supposed' by the patient to posses this knowledge. In the course of the treatment, the patient would come to 'de-suppose' the analyst of this knowledge – that is, to lose his faith in the analyst. That, in fact, was the whole point of psychoanalytic treatment. Why, then, did the analyst collude in the original gullibility of the patient, rather than simply telling the patient up front that there was no secret knowledge to be had? Because it was only by learning the hard way, so to speak, that the patient could experience the painful process of dissillusionment, and thereby realise that *nobody* held the key to his life except him.

There were many other curious and intriguing terms in Lacan's baroque conceptual edifice, and as I read more of his work my database of citations and glosses mushroomed into a substantial document. After a year of this rather ad-hoc process, it dawned on me that I had the makings of a publishable reference work, and that is what it eventually turned into (Evans, 1996).

Lacan in England

My employment in Argentina came to an end in December 1993, and the following month I returned to Britain, where I set about contacting the few Lacanian groups that existed in my native country. The situation was very different to that in Argentina. In contrast to the plethora of paths to becoming a Lacanian analyst in Buenos Aires, there was only one recognised Lacanian training organisation in Britain, the Centre for Freudian Analysis and Research (CFAR). In Argentina, training to be a Lacanian analyst was considered to be a rather different, and much less formal process, than training to be a traditional Freudian or Jungian analyst, but CFAR had implemented a more conventional sort of training regime in order to make themselves more acceptable to the various bodies that regulated psychotherapy in Britain. I had already been seeing a Lacanian analyst in Argentina for more than a year by the time I returned to Britain, taken a diploma in psychoanalysis at the University of Buenos Aires, and participated in numerous seminars, but CFAR insisted that I start their training course from the beginning, and so I did.

Over the following two years, I busied myself with my training in CFAR, and continued my own analysis, this time with a French psychoanalyst based in Paris. Every month I would travel to Paris and pack six or seven sessions into two or three days. At the same time, I also studied for a Master's degree in Psychoanalytic Studies at the University of Kent at Canterbury, and continued work on my dictionary of Lacanian terminology. Everything, it seemed, was progressing smoothly, and it was surely only a matter of time before I took the next logical step and became a practising Lacanian psychoanalyst myself. And that is what I would do for the rest of my life.

Beneath the surface though, doubts were already beginning to brew. I can't remember exactly when I first began to seriously call into question the fundamental principles of the Lacanian worldview. There certainly was no blinding flash of insight, some awful moment when it suddenly dawned on me that I might be dedicating my life to a practice and a theory that were both deeply flawed. It was, rather, a gradual process, in which the inconsistencies in Lacanian theory and the dangers of Lacanian therapy became progressively more obvious to me as my grasp of both became more comprehensive.

As far as the theory was concerned, it was the process of writing the dictionary that was most responsible for my growing scepticism. As I became more familiar with Lacan's teachings, the internal contradictions and lack of external confirmation became ever more apparent. And as I tried to make sense of Lacan's bizarre rhetoric, it became clearer to me that the obfuscatory language did not hide a deeper meaning, but was in fact a direct manifestation of the confusion inherent in Lacan's own thought. But whereas most of Lacan's commentators preferred to ape the master's style, and perpetuate the obscurity, I wanted to dissipate the haze and expose whatever was underneath – even if it meant seeing that the emperor was naked. In the preface to my dictionary, I wrote that

> This obscurity [of most Lacanian writing] has even been seen as a deliberate attempt to ensure that Lacanian discourse remains the exclusive property of a small intellectual elite, and to protect it from external criticism. If this is the case, then this dictionary is a move in the other direction, an attempt to open Lacanian discourse up to wider scrutiny and critical engagement.

(Evans, 1996: ix)

Ironically, it was this attempt to open Lacanian theory up to criticism that played a major role in leading me to reject Lacanian theory myself.

At the same time as I was becoming increasingly sceptical about Lacanian theory, I was also growing more doubtful about the claims made on behalf of the practice of Lacanian analysis. My own analysis in Paris had proved very different from my analysis in Buenos Aires, and much less satisfactory. It seemed that the personality of the analyst played a far greater role in determining the way my analysis proceeded than the theory to which the analyst subscribed. The same lesson was also emerging from my own practice as a trainee analyst. For by 1996 I was seeing my own patients, both privately and in the psychiatric department of a state hospital in South London.

Eight years later, my work as a counsellor providing outpatient psychotherapy in the public healthcare sector in Britain remains a wonderful source of memories. There are things I learned about human nature then, locked away in a small consulting room, face to face with strangers who poured out their innermost secrets to me, that I don't think I could have learned in any other way. It was a humbling, profound, and sometimes harrowing experience. There were times, I think, when I did actually help people. There were other times, I know, when my impact was at best neutral and possibly even harmful. But as I struggled with the dilemmas that so many other therapists have struggled with, one thing did become abundantly clear to me. Whenever I did succeed in helping someone, it was always because I had put my Lacanian theory to one side for the moment, and simply responded out of intuition, empathy, or common sense. Conversely, whenever I did what was I supposed to do according to my Lacanian training, it rarely helped. In fact, it often left people confused and upset.

When I chatted with my colleagues at lunch and at the weekly group supervision sessions, I was confronted by a welter of different approaches to psychotherapy, each with their own terminology and clinical techniques. Everyone was convinced that their particular approach was best, and yet their seemed no difference in the recovery rates of our patients. We spoke in different languages, without even a common yardstick by which our different perspectives could be judged. Psychotherapy and psychoanalysis were clearly in dire straits. Eventually, I realised I could not continue to practise psychoanalysis or psychotherapy of any kind. I believed then, and still believe today, that it is not ethical for a therapist of any stripe to treat patients with a method that he or she harbours grave doubts about. For this and various other reasons I gradually withdrew from all clinical work, and decided to resolve my doubts one way or the other from within the more impartial domain of academic research. I would do a PhD.

Lacan in the USA

I applied to various universities, some in Britain and others in the USA. Psychology departments were out of the question, of course. There was no interest in Lacan in any of the decent psychology departments in Britain or the USA. While researching the various other options, I noticed that a prominent Lacanian scholar had a position in a department of comparative literature at the State University of New York at Buffalo. This struck me as a rather odd place for a Lacanian scholar to

situate herself, but I put this down to necessity. Surely, I imagined, she had been forced into such an ignominious position by the prejudice against psychoanalysis which reigned in Anglo-American psychology departments. While the enlightened psychologists in Argentina were only to happy to let Lacanians into their departments, their blinkered counterparts in Britain and the USA would have none of this. As a result, the misunderstood Lacanians in these countries were forced to take refuge in the only departments that were broad-minded enough to have them; departments of literature and cultural studies. So I resolved to go to Buffalo.

I wasn't really interested in literature or literary theory, but I didn't think that really mattered. The important thing was to work with a supervisor who was familiar with, and sympathetic to, Lacan's work. Besides, a lot of the research conducted by graduate students and faculty members in the department of comparative literature at Buffalo looked more like philosophy than literary criticism. True, it was continental philosophy rather than analytic philosophy, but it was still philosophy. And that is essentially what I wanted to do. I wanted to conduct an in-depth and rigorous philosophical analysis of Lacan's work, to see if I could resolve my nagging doubts about the apparent inconsistencies and fallacies I was increasingly discovering in it.

I soon discovered that such an approach did not fit in well with the academic atmosphere in Buffalo. Neither the graduate students there, nor my supervisor, seemed particularly concerned to enquire whether Lacan's views were consistent or correct. To them, that was a vulgar question, demonstrating a naive misunderstanding of the Lacanian ouevre. To them, it was as ridiculous to worry about the factual accuracy of Lacan's work as it was to worry about the factual accuracy of a poem, or a symphony. The value of Lacan's work lay not in any ability to describe the facts, but in its power to produce novel ways of interpreting literary texts. For scholars steeped in literary theory, this was I suppose a natural response, but to me it seemed clearly at odds with the whole thrust of Lacan's life and work. For Lacan was not a literary critic, but a practising psychoanalyst. Despite the huge amount of time that Lacan spent discussing literary texts in his seminars and writings, he never made a single attempt at literary criticism. Lacan was not the slightest bit interested in literature for its own sake. Every time that Lacan discusses a work of literature, or a piece of art, he does it for one reason, and one reason only; to illustrate a psychoanalytic concept so that other psychoanalsysts can understand that concept better and use it in their clinical practice.

To the Lacanians in Buenos Aires and Paris, that was abundantly clear. They were as horrified as Lacan himself was by the way that psychoanalsysis had been perverted, as they saw it, by literary critics and cultural theorists in Britain and the USA. Lacan railed against what he saw as the `hermeneuticization' of psychoanalysis, arguing that psychoanalysis was not a general hermeneutics that could be `applied' to any area of enquiry, but the theory of a specific domain, namely, the process of psychoanalytic treatment. Lacan could not have cared less about deepening his students' understanding of art and literature; all he cared about was deepening their understanding of psychoanalysis. And psychoanalysis was first and foremost a method for treating patients, and secondly a theory of how that method worked.

Yet most of the Lacanians in Buffalo had no understanding, nor any peresonal experience, of that method. They read Lacan entirely within the context of literary criticism, and rarely, if ever, thought about its clinical foundation. No wonder they were so unconcerned about the consistency

or accuracy of Lacan's ideas. They had completely misunderstood the whole of Lacan's project.

Truth and evidence

I left Buffalo in disgust and decided to continue my doctoral research elsewhere. I returned to the UK in 1997 to take up a place in the philosophy department at the London School of Economics, a college of the University of London. The atmosphere there could not have been more different from that in Buffalo. The department of philosophy had been founded by Karl Popper, one of the giants of analytic philosophy, and his influence was clearly visible. The qualities admired in writing here were clarity and concision, not empty rhetorical flourishes and baroque digressions. And above all, people demanded evidence. No matter how obvious (or how weird) your opinions seemed to be, they were worth nothing unless you could back them up.

That's when I began to realise, with growing alarm and shame, that I had never really asked myself what the evidence for psychoanalysis was! I had simply been carried along by the panache and stylistic flourishes of two great wordsmiths - Freud and Lacan - without pausing to ask the most important question of all: on what evidence did they base their far-reaching claims? And was that evidence sufficiently solid to support those claims?

With Freud, there was at least some debate to be had here, as was shown by the range of scholarly works dedicated to examining precisely this question. Philosophers of science had been debating the evidential status of case-histories versus statistical analysis in general, and the value of Freud's vignettes in particular, for decades. Psychoanalysts themselves had been less willing to subject the founding father of their discipline to such rigorous scrutiny, but some had at least made an effort. Their conclusions might be wrong, but they did acknowledge the question.

With Lacan, matters were altogether different. The question of evidence was not even raised by his followers. Everything the great master wrote was taken on trust, as if it were holy writ. Everything Lacan said was right, just because he said it. Debate in Lacanian seminars was purely a matter of exegesis - what did the master mean by such-and-such a phrase? Nobody ever took the next logical step and asked - was he right? That was simply assumed.

Why was Lacan supposed to immune from criticism? Was he supposed to have some kind of infallibility, like the pope? From where did this infallibility derive? Was it, in fact, merely a projection of his disciples, who put Lacan in the position of the subject-supposed-to-know, Lacan's term for the position of the analyst vis-a-vis the patient? In which case, did a succesful `cure' mean discovering that Lacan was a fraud, an impostor, who really had no more access to the truth than anyone else, and probably less?

It took some courage on my part to raise these questions with my Lacanian friends. The response was usually one of faint amusement; `what is truth?' they might reply with a condescending smile. `Surely you don't believe in facts?' It began to dawn on me that, despite all his talk about truth, Lacan didn't really care about it, and nor did his followers. They based their beliefs on their wishes, rather than on proper evidence. I was apalled, disgusted by this abnegation of curiosity, by this waste of human intelligence, by this shameless embrace of illusion for illusion's sake. So I began to

look around for some better way to go about understanding the mind.

Although I had no idea of this when I first enrolled as a PhD student at the London School of Economics, my new place of study had become a breeding ground for a school of thought that many Lacanians would probably see as diametrically opposed to their own. Evolutionary psychology, as it called itself, was by no means universally accepted at the LSE, but its influence was clearly visible, above all in a series of influential public lectures known as the 'Darwin Seminars'. These monthly events, at which academics, writers and journalists crowded excitedly into packed lecture theatres to hear internationally-renowned speakers such as Daniel Dennett and Steven Pinker speak about Darwinian theory, were marked by an intellectual frisson the likes of which I had never witnessed before. They were organised by a remarkable woman called Helena Cronin, who was likened by more than one newspaper to the Parisian ladies whose salons were attended by the great philosophes of the Enlightenment.

The Darwin Seminars gave me just what I was looking for – a new way of looking at the human mind, something completely different to the Lacanian quagmire in which I had been bogged down for the previous five years. This changed my intellectual predicament, from one in which I had a theory that I knew to be deeply flawed but nothing to replace it with, to one in which I had a choice between two competing theories. So I set about comparing the theories with one another, and seeing how each squared up to the evidence.

This is where I want to turn from autobiographical narrative to intellectual discussion. It's not that my intellectual journey became easier at this point, or less interesting. Far from it; I had a terrible time shedding my Lacanian skin, many agonising moments when I wondered if my doubts about psychoanalysis were motivated by some repressed wish or other, or whether this was not just some kind of 'negative therapeutic reaction' or resistance against the process of analysis. But since it was, in the end, the intellectual arguments and empirical evidence, and not any repressed wishes, that finally convinced me to jetison Lacan completely and become an evolutionary psychologist, it is to the arguments and evidence that I must now turn.

Although it is true, as I have already noted, that many Lacanians would see evolutionary psychology as diametrically opposed to their own worldview, there are in fact some surprising links between the two. For Lacan was one of the first psychoanalysts to discuss concepts from ethology and cognitive science, the two sciences that would later form the basis of evolutionary psychology. Yes, he was also profoundly critical of these new disciplines, and eventually rejected them both in favour of a return to a more traditional Freudian vision, but there were times when he was more sympathetic to them. The reasons for Lacan's change of direction go to the heart of a debate that is still pertinent today – do the new biological and computational theories of mind possess the conceptual resources to deal adequately with emotion and subjectivity, or do these topics require a psychoanalytic understanding? This was the debate into which my encounter with evolutionary psychology plunged me.

Lacan and ethology

Let's take ethology first. With hindsight, some of Lacan’s remarks about ethology can seem

uncannily prophetic. At the time when Lacan began to develop his concept of the mirror stage, in the mid-1930s, the scientific study of animal behaviour was only just beginning. The work of Konrad Lorenz, the founding father of ethology, was already beginning to attract the attention of many zoologists, but it was completely ignored by psychologists, who still clung to the idea of an 'unbridgeable gap' between humans and animals. Later on, after the Second World War, psychologists would turn increasingly to ethology as they developed a more biologically-oriented science of behaviour, and John Bowlby would bring these developments to the world of psychoanalysis. But in 1936, Lacan was alone in anticipating this trend. It was in that year that he presented his paper on the 'mirror stage' to an astonised audience at the Fourteenth International Psychoanalytical Congress at Marienbad.

Lacan began by describing an experiment called the 'mirror test' which his friend, the French psychologist Henri Wallon, had performed in 1931. Wallon had compared the reactions of human infants and chimpanzees to seeing their reflection in a mirror. He found that at around the age of six months both humans and chimpanzees begin to recognise that the image in the mirror is their own. However, Wallon claimed there was an important difference between the subsequent reactions of the human infant and the chimpanzee. The human infant becomes fascinated with his reflection, and leans forward to examine it more closely, moving his limbs to explore the relation between image and reality. The chimp, on the other hand, quickly loses interest, and turns to look at other things.

Lacan used this observation as a springboard to develop an account of the development of human subjectivity that was inherently, though often implicitly, comparative in nature. Human subjectivity was only understandable by contrasting it with that of our nearest relative, the chimpanzee. Today, when evolutionary theory is increasingly being recognised as a powerful tool for understanding the human mind, such an approach would not attract much comment. Wallon's observation about the different ways that humans and chimpanzees react to recognising their own reflections has even become a commonplace in the literature. In the 1970s, much was made of an ingenious version of the mirror test that the American psychologist Gordon Gallup devised to test the self-awareness of chimpanzees (Gallup, 1970). But we should not let anachronism prevent us from recognising the far-sighted nature of Lacan's remarks in 1936. At a time when comparative psychology was still in its infancy, and when most psychologists regarded human-animal comparisons as irrelevant at best, Lacan's decision to invoke Wallon's experiment as the basis for a new psychoanalytic concept was extremely bold.

Interestingly, however, Lacan did not go on to become an enthusiastic proponent of 'ethologising' psychoanalysis, in the manner of John Bowlby. Rather than taking concept of the mirror stage into the uncharted territory of evolutionary psychology, as others were to do decades later, he tried to bring it into the fold of Freudianism. During the course of the next decades, Lacan's early remarks about the mirror stage as a phase of biological maturation became increasingly overlayed by less developmental interpretations. By the early 1950s, the mirror stage was no longer simply a moment in the life of the infant, but 'a permanent structure of subjectivity' (Evans, 1996: 115), an 'essential libidinal relationship with the body image' (Lacan, 1953b: 14).

These developments in Lacan's concept of the mirror stage are a microcosm of changes in his work

as a whole. Other strands in his work show the same shift away from the empirical world of biology to the metaphysical world of 'structures'. While the early Lacan abounds in references to ethology, these get increasingly sparser as his work develops. In the 1949 version of the mirror stage paper Lacan cites experiments with pigeons and locusts to support his observations about the importance of the image (Lacan, 1949: 3). Five years later, he is still making the occasional reference to ethological concepts such as the 'innate releasing mechanism', and citing the names of Lorenz and Tinbergen (Lacan, 1953-54: 121). Soon after, however, Lacan begins to veer away from ethology. His much-vaunted 'return to Freud', announced in 1953, led Lacan to explore those aspects of Freud's work that did not fit so easily with modern biology. When he came to examine Freud's concept of the 'death instinct', for example, Lacan quickly realised the impossibility of giving it a biological meaning. But instead of concluding that the Freudian concept was therefore redundant, Lacan tried to rescue it by insisting that Freud had not meant it as a biological concept; the death instinct was 'not a question of biology', Lacan now claimed (Lacan, 1953a: 102). But Freud's writings were not so pliable; his theory of instincts was couched in an explicitly biological framework. Lacan was therefore forced to invoke tortuous paradoxes to rescue his non-biological interpretation of Freud; 'Freudian biology has nothing to do with biology', he claimed (Lacan, 1954-55: 75).

But what was this 'Freudian biology', if it had nothing to do with real biology? Lacan never said. He went on to re-work Freud's theory of instincts in a way increasingly removed from any contact with ethology or comparative psychology. He began to complain that Strachey had betrayed Freud by translating Trieb as 'instinct', claiming that this blurred Freud's distinction between the human Trieb and the animal Instinkt. The Freudian term was better rendered as 'drive', Lacan argued, to emphasise the contrast between the flexible, culturally-determined behaviour of humans and the rigid, biologically-determined behaviour of animals.

The idea of a radical separation between humans and animals, the orthodoxy which Lacan had so boldly questioned in his comments on the mirror stage in 1936, was now beginning to creep into Lacan's own work. By the mid-1950s Lacan was becoming increasingly influenced by the French anthropologist, Claude Lévi-Strauss, who argued that 'nature' and 'culture' were separated by a massive ontological chasm. This spurred Lacan to pursue his culturalist reading of Freud even further. Every biological term in Freud's work was reinterpreted as a metaphor for some cultural phenomenon. Freud's remarks on the phallus, Lacan claimed, had nothing to do with something so banal as a mere biological organ; they referred to a cultural symbol. Freud's false theory about the 'vaginal orgasm' could be rescued by arguing that it was not about biology but about psychological satisfaction (Lacan, 1972-73: 145).

This strategy was doomed, however. It appeared to save Freud's work from refutation by modern biology, but at the price of removing all empirical import. The biological Freud was wrong, but at least he advanced clear, testable claims. The cultural-linguistic Freud that Lacan invented, on the other hand, was completely untestable. He was not merely impervious to contradictory evidence in biology; he was impervious to any evidence at all. Lacan rescued Freud from a fatal encounter with modern biology by removing him from the world of science altogether.

That is not how Lacan saw it, of course. At the time Lacan began to reinterpret Freud as a cultural

theorist, this was not the obviously anti-scientific move that it clearly is today. In the mid-1950s, the work of Lévi-Strauss and other anthropologists held out the promise of a truly autonomous science of culture. These anthropologists saw the developing theory of structural linguistics as providing a non-biological yet equally scientific basis for the study of culture. In line with their emphasis on the distinction between culture and nature, between humans and animals, they divided scientific enquiry into two separate worlds. The natural sciences, including biology, could take their inspiration from physics, but the social sciences would look instead to linguistics for their foundations and methods. The two kinds of science were supposed to be equally scientific, but autonomous and independent.

This view of the social sciences has been called the 'Standard Social Science Model' because it dominated anthropology, sociology and psychology for much of the twentieth century (Tooby and Cosmides, 1992: 23). In the last decade, however, the Standard Social Science Model has begun to fall apart, as it is increasingly replaced by a more integrated view of science. The idea of science as a dual-track activity has been increasingly questioned as researchers begin to recognise the idea for what it is – the last refuge for the shaky creationist notion of a radical gap between humans and other animals. Spurred on by the vision of science as a fundamentally unified activity with a single coherent methodology, contemporary researchers are suspicious of any attempt to isolate psychology from biology. Building on the work of the ethologists, evolutionary psychologists are now constructing a unified science of behaviour based firmly in biological theory. Their work is increasingly influencing research in anthropology, linguistics, cognitive science and economics. The Standard Social Science Model is being replaced by a new 'Integrated Causal Model'.

Seen from the vantage point of this contemporary paradigm-shift, Lacan's intellectual development acquires a tragic pathos. His early ventures into ethology seem tantalisingly prophetic. If Lacan had pursued them further, he might perhaps have been one of the first to question Freud's hegemony and initiate the move to a more biologically-based psychology. Instead, he poured his energy into what would eventually prove to be a historical cul-de-sac – the doomed research program of the Standard Social Science Model.

Lacan's backsliding shows a curious paralell with Freud's own intellectual journey. Freud started out as a biologist. His first publications were papers on anatomy and physiology. He then became interested in neurology, and for a while he sought a way to state psychology in neurological terms. The Project for a Scientific Psychology (1895) was, however, never completed. The fanciful speculations about neuronal connections were impossible to substantiate because there was, at the end of the nineteenth century, no way of looking at the brain at work. Post-mortem analyses were the only way to find out more about the structure of the brain, and these had to rely on very weak microscopes. In the absence of such tools as functional Magnetic Resonance Imaging, which can show patterns of activity as they change second-by-second in the thinking brain, or electron microscopes, which can expose the delicate structure of the synaptic cleft, Freud had no option but to pursue a less neurological approach. After the Project, he moved further and further away from biology, towards in an increasingly cognitive and finally a predominantly cultural perspective. If he had been born a century later, things might have been very different. Freud would have been enthralled by the recent developments in neuroscience. With an MRI scanner at his disposal, he may well have never invented psychoanalysis.

Lacan and cognitive science

So much for ethology, then. The other pillar of evolutionary psychology is cognitive science, and Lacan was one of the first psychoanalysts to discuss this discipline too. In the 1950s, Lacan became briefly fascinated by the computational model of the mind which lies at the heart of cognitive science. Today, the idea that the mind is a computer is central to much work in artificial intelligence, linguistics, philosophy, neuroscience and even anthropology, but psychology has been the biggest beneficiary. By providing psychology with a precise language in which testable hypotheses can be clearly formulated, the computational theory of mind has given birth to a new field – cognitive psychology – which is arguably the first truly scientific account of how the mind works.

People have often attempted to understand the mind by comparing it with the latest technology. In the past few hundred years, the mind has been described as a clock, a watch, a telegraph system, and much else. Freud was not immune to this trend. Borrowing heavily from the science of his own time, the nineteenth-century developments in hydraulics, he conceived of the mind as a system of channels and waterways. The waterways could sometimes be blocked, in which case the fluid would soon overflow into another channel. The problem with all these comparisons is that they were little more than interesting metaphors. They did not help very much to advance understanding of the mind because there was no clear way of generating testable predictions from them. In particular, there was no quantitative dimension to these models. The pressure (Drang) of the 'mental water' in Freud's hydraulic model of the mind was, theoretically, a quantitative (or 'economic') phenomenon, but Freud failed to specify a way of measuring it.

All this changed with the 'cognitive revolution'. Comparing the mind to a computer was different from previous technological analogies because the precise language of information-processing allowed testable hypotheses about the mind to be clearly formulated, often in ways amenable to investigation by quantitative methods. Also, there was intuitively much more to motivate the comparison of the mind to a computer than to a clock or an irrigation system. After all, the function of the mind, like that of the computer, is to process information – it is not to tell the time or to distribute water. Unlike earlier comparisons, then, the computational theory of mind could be taken literally; the mind is not just like a computer, it is a computer.

The cognitive revolution swept through psychology in the 1960s, displacing the behaviourist paradigm that had held sway since the 1920s. Its origins, however, lie in the 1950s. If one day had to be singled out as the birthday of cognitive science, it is surely September 11, 1956. It was on that day that three seminal papers were presented at a historic meeting at the Massachusetts Institute of Technology (MIT). Allen Newell and Herbert Simon spoke about a 'logic theory machine', inaugurating the modern discipline of Artificial Intelligence (Newell and Simon, 1956). Noam Chomsky described 'three models for the description of language' in a paper that has been described as marking the birth of modern linguistics (Dennett, 1995: 384; Chomsky, 1956). And George Miller presented a paper about short-term memory that is now recognised as one of the foundational papers of cognitive psychology (Miller, 1956).

Lacan's own interest in the computational model of the mind dates from even earlier. In 1955, a year before the birth of cognitive science, and a decade before the cognitive revolution was in full swing, Lacan gave a lecture to the French Psychoanalytic Society on the subject of 'Psychoanalysis and Cybernetics' (Lacan, 1954-55: 294-308). In this lecture, he explored some basic concepts of computational theory, including binary code and the use of AND and OR gates to compute logical functions. Borrowing from Norbert Wiener, the mathematician who, along with Arturo Rosenbleuth, coined the term 'cybernetics' in 1947, Lacan urged his audience to think of the mind in information-processing terms, and stressed the importance of linguistics in this enterprise.

With hindsight, these remarks seem prophetic indeed. Today, the dominant paradigm in psychology is cognitive. Not only is the mind compared to a computer, but the programs that govern hundreds of specific mental processes have been described in algorithmic detail. And, as Lacan anticipated in 1955, linguistics has played a pivotal role in the cognitive revolution. Chomsky's work, above all, provided the first clear idea of what a whole research program guided by the computational theory of mind would look like.

Yet, as with his early hunches about the importance of ethology, Lacan soon abandoned his interest in cybernetics and computational theory. Perhaps he sensed that the language of information-processing did not sit easily with Freud's hydraulic model of the mind. Perhaps he even realised that the digital nature of the former was incompatible with the analogue nature of the latter. Whatever the reason, however, Lacan chose to remain with the old Freudian model rather than pursuing the newer computational one. Once again, with the benefit of hindsight, we see Lacan wandering into a historical dead-end when he could so easily have helped blaze the trail of a future science.

The turnaround is evident in Lacan's later work, where he increasingly turns away from his 1950s emphasis on Saussurian and Jakobsonian linguistics, back towards a hydraulic model of the mind. By the 1970s, Freud's mythical 'mental fluid', the libido, has regained centre stage in Lacan's thought in the guise of the term 'jouissance' (Evans, 1998: 11). But nowhere is Lacan's change of heart more evident than in his remarks after meeting Chomsky at MIT in 1975. According to one account, Lacan was horrified by Chomsky's approach to the study of language. 'If that is science', he commented after his conversation with the great American linguist, 'then I prefer to be a poet!'

What was it that Lacan didn't like about Chomsky's scientific approach? His remark about preferring to be a poet might suggest the clichéd 'Romantic view of the scientist as murderer of beauty' (Dennett, 1995: 386). This certainly seemed to lie behind some of the intense opposition to Chomsky that arose in the foreign language departments of most major American universities in the 1960s. Chomsky's colleagues in the humanites (linguistics was classified as one of the humanities by MIT, where Chomsky worked) condemned his theory of syntax as 'dreadful, philistine scientism, a clanking assault by technocratic vandals on the beautiful, unanalyzable, unformalizable subtleties of language' (Dennett, 1995: 385-6, emphasis in original). But Lacan's opposition to Chomsky must surely have been motivated by a different consideration. After all, Lacan was famous for his decidedly un-romantic view of 'the Subject', for his insistence on formalising the 'algorithm' of the linguistic sign and analysing the 'structures' in the patient's 'discourse'. Lacan claimed to be on the side of science, and desplayed his mechanistic credentials by dismissing

humanism as 'a bag of old corpses' (Lacan, 1954-55: 208). Lacan's objection to Chomsky could not possibly be founded on a hackneyed Romantic view of science!

Or could it? Perhaps Lacan's constant remarks about formalising psychoanalysis, and his claims to be on the side of science, were mere lip service. Perhaps Lacan was a closet Romantic all along. This alternative view is not as unlikely as it may first appear. Some of Lacan's earliest publications were for the surrealist journal Minotaure – indeed, his interest in surrealism predates his interest in psychoanalysis. Perhaps Lacan never really abandoned his early surrealist sympathies for surrealism, with its neo-Romantic view of madness as 'convulsive beauty', its celebration of irrationality, and its hostility to the scientist who murders nature by dissecting it.

Some support for this view can be found, paradoxically, in Lacan's attempts to develop a mathematical notation for psychoanalytic theory. His formulae and his diagrams give an initial impression of scientific rigour, at least to a non-scientifically trained eye, but on closer examination it becomes evident that they break even the most elementary rules of mathematics (Sokal & Bricmont, 1998). These equations are supposedly there to give substance to Lacan's avowed desire to formalise psychoanalysis. The fact that they are mathematically meaningless gives the lie to that claim. If Lacan was really concerned with formalising his discipline, he would surely have taken more care to get his maths right. The fact that he didn't suggests that he was more interested in the rhetoric of formalisation than the reality. For Lacan, 'formalisation' and 'mathematisation' were just metaphors, mere sound-bites for his neo-Surrealist techno-poetry. No wonder, then, that when he saw Chomsky engaged in a truly rigorous attempt at genuine formalisation, Lacan backed away in horror.

Conclusion

At the time of my initial encounter with Lacan, in 1992, I knew next to nothing about science. Like all British children, I had been given a smattering of physics, chemistry and biology at school, but this consisted solely of isolated facts and figures, without any overall view. Even worse, my high-school science gave me no understanding of the process of scientific discovery, the dialectic of evidence and argument. I went on to study languages and linguistics at university, but even here the emphasis was just as much on literature as on the scientific study of language. It is hardly surprising, then, that when I came across the ideas of Jacques Lacan, shortly after finishing my first degree, I was unable to spot their serious defects. Now I understand more about how science works, those defects are so crashingly obvious that I sometimes feel ashamed of myself for being so naïve.

Although it is several years now since I studied comparative literature in Buffalo, and I have rather lost touch with the world of literary criticism, I understand that there are still lots of literary scholars in the USA and in Britain who still rely on Lacanian theory in their work. This strikes me as very sad. Perhaps their continuing reliance on Lacan is due to their poor understanding of science, just as mine was. I strongly suspect that if they devoted as much time to acquainting themselves with the principles of scientific discovery, and the discoveries of modern biology and psychology, they would reach similar conclusions to me. They would de-supppose Lacan of the secret knowledge they seem to attribute to him today, and see him for what he really was – sadly

mistaken, and perhaps even tragically deluded.

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