

Science, Philosophy and NLP

Joe Cheal

This article is designed to introduce readers to the sometimes bewildering 'isms and ologies' in social science research. The purpose of doing this is to give an overview and to provide a map of some of these concepts. It is hoped that this will allow us to establish where NLP sits. As an author, I offer this article as simply a guide rather than an authoritative text.

Science and the Scientific Method

Science can be broken down into hard (the natural and physical sciences) and soft (the social sciences). Like psychology and linguistics, NLP would be regarded as a social science. Ironically, this 'softer' form of science is likely to be more open to misinterpretation and so the researcher must take extra care to remain objective and 'scientific'. The foundation of science lies in carrying out carefully controlled experiments with carefully considered interpretation. In common parlance, for something to be considered 'scientific', it needs to be testable, reproducible and refutable.

Traditionally, science is thought of as a system of objective knowledge. However, from a big picture perspective, the study of science is not necessarily an easy path; the philosophy of science and the scientific method has been debated for centuries (e.g. see O'Hear 1990). Whilst it could be argued that we can measure the objective universe via observation and experiment, it could just as easily be argued that we *cannot know* the objective universe because we are subjective creatures who cannot truly take an objective perspective. Following the latter position, we might further argue that we cannot really know if there *is* an objective universe out there at all.

The kind of scientific approach we adopt is likely to depend on our philosophical viewpoint. If we consider the world to exist objectively to us and that it can be measured objectively, our approach is likely to be different than if we believe the world can only be measured from a subjective perspective.

What kind of a world does NLP presuppose? NLP presupposes that perception *is* reality. Perception, experience and knowledge are based on internal representations and are therefore subjective. NLP could indeed be defined as the study of the structure of

subjective experience (e.g. Dilts et al 1980). Perhaps it is for this reason that NLP is unlikely to lend itself well to objective evaluation since content and process will often change depending on the context and no two contexts can ever be the same (for example, even if similar, they will happen in a different time and/or location). Even the tools of objective measurement, like electro-physiological readings or brain scans, whilst giving objective scientific data are still based on the subjective response of the 'client', the performance of the 'practitioner' and the interpretation of the 'experimenter'. Bandler (1985) puts it succinctly by arguing: "When you study subjectivity, there's no use trying to be objective."

Dilts (1994.p4) suggests that: "Science searches for relations which are thought to be independent of the searching individual. This includes the case where man himself is the subject." It could be argued however that science can never be completely independent (and therefore objective); as Van Vogt (1971, p.xi) says: "Each scientific researcher 'trails his history' into every research project... the observer always is, and always has to be a 'me'." NLP takes this point into account as Yeager (1985, p196) reports: "NLP factors the observer into the process of science and does not attempt to presuppose absolute objectivity."

We could consider this objective – subjective polarity to be a continuum. Ken Wilber (2000) proposes a medium point on this continuum called 'intersubjective' - also known as a collective/cultural subjective. Bandler (1985, p18) appears to be alluding to the intersubjective when he says: "Most people's experience is not about reality, it's about shared reality."

Objective - - - - Intersubjective - - - - Subjective
--

NLP is likely to sit somewhere between subjective and intersubjective, with a stronger leaning towards the subjective. Tosey & Mathison (2003, p383) propose that NLP "concentrates on the intrapersonal, intrapsychic processes of reality construction" and that it "attends little, if at all, to the social context and intersubjectivity." This may be a challenge for NLP in that it doesn't always map comfortably across to groups, which are an example of a collective subjective. For example, as an Organisational Development tool, NLP works well as a metaphor (e.g. the organisation as like an individual), but it is challenging to practically 'swish' an organisation! An exception to the 'subjective' only tools of NLP is Dilts' logical levels model. The application of NLP to groups and organisations is the topic for a separate article however.

Science, Philosophy and NLP

Scientific research is affected by two philosophical topics that are intrinsically linked to the objective-subjective continuum:

- 1) Ontology (the study of existence – the way the world is)
- 2) Epistemology (the study of knowledge – how we can know the world)

Dilts & Delozier (2000a) suggest that “NLP is both a way of being (an ‘ontology’) and a way of knowing (an ‘epistemology’). At the core of NLP (as an ontology) is a set of fundamental presuppositions about communication, choice, change, and the intentions behind our behaviours. At the heart of NLP (as an epistemology) is modelling – an ongoing process for expanding and enriching your map of the world through awareness, flexibility, multiple perspectives and personal congruence.”

Beyond Dilts & Delozier (2000a), the NLP literature appears to have less to say about ontology and more to say about epistemology. NLP is less interested in whether there is an objective reality or not, but more to how we process our own personal reality (i.e. how we know it). Whilst not ruling out the possibility of an objective reality, in NLP we can never know such an objective ‘view from no-where’ (Nagel 1986) and hence we can never even know if we are anywhere near it. We deal with each individual’s ‘map of the world’ and then we generalise to shared maps.

In NLP, we presuppose that ‘the map is not the territory’, but we can only ever know the map. We can only experience the ‘outside’ world via our senses. By the time we ‘know the world’, we have processed a series of internal representations and this map of internal representations is all we can experience. According to neuro-physiologist Benjamin Libet, it is thought that by the time our brain makes the full internal representation, we are about half a second behind reality (Dennett 1992).

1) Ontology

Taking the objective-subjective continuum and converting it into a dialectic construct, this gives us the main areas of ontology:

- 1) **Materialism** – argues that reality exists independently of us. The physical world is solid and we are physical too. All subjective experience of ‘consciousness and mind’ is an illusion of the nervous system ‘machine’.

2) **Dualism** – argues that reality is a combination of body and mind. There is a physical substance that we call the world and there is also a non-physical substance we call mind.

3) **Idealism** – argues that reality is in the mind. It is the physical world that is really the illusion, like a dream environment that *seems* real.

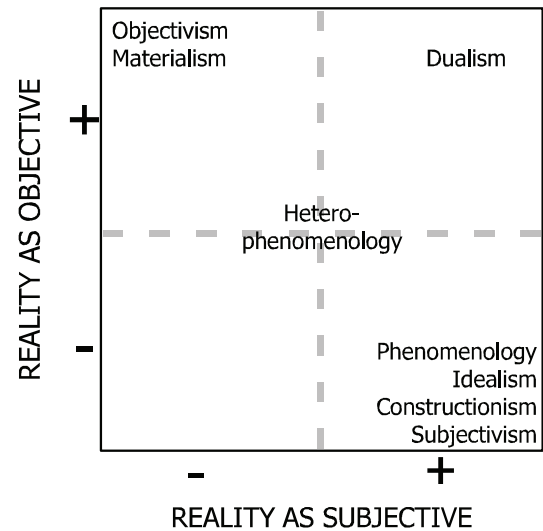


Fig 1. Ontological Positions

As well as these three key philosophies, it is necessary to mention **phenomenology**, which is a less extreme position of idealism. Phenomenology

takes the position that reality is subjective and it rejects the notion of an external, objective reality or set of truths and facts. We, as human beings create the world and the meanings we give it.

In research terms, phenomenological research is focussed on the “the subjective experience of the individuals studied... to understand a particular phenomenon” (Robson 2002, p195). This has a strong connection with the approach of NLP. Dilts & DeLozier (2000b) argue that “NLP is clearly an extension of phenomenology to some degree... it considers a person’s sensory experience... to be the basic material from which he or she builds a model of the world.” (p951)

It should be noted phenomenology (and hence phenomenological research) is not immune to criticism. Searle (2005) argues that the ‘human reality’ measured by phenomenology is not the same as the ‘basic underlying reality’ (measured by the scientific approach). This mismatch leads to what Searle refers to as the ‘phenomenological illusion’, i.e. problematic inferences in such areas as meaning and social reality (phenomenological research can only ever be meaningful at the level of human/subjective reality and not at the level of basic/objective reality). Dennett (1992) argues that phenomenology is “defiantly inaccessible to materialistic science” (p65) in that it is a ‘first person’ approach which is incompatible with the ‘third person’ approach of scientific research. Dennett also argues that from the first person perspective (I/me) there is the temptation to jump to first person plural (we/us) by assuming that others act/think the same way as ‘me’. He proposes a new form of phenomenology that he calls ‘**heterophenomenology**’ which is expressed in third person perspective. This is designed to be a neutral path (i.e. less subjective) as it does not attempt to generalise ‘I/me’ to ‘we/us’ and it is an approach that “can (in principle) do justice to the most private and ineffable subjective experiences; while never abandoning

the methodological scruples of science” (p72). In social science, researchers are usually encouraged to write their research articles and dissertations in third person, which would fit with Dennett’s ‘neutral path’.

According to Bryman (2001) some other ontological positions are **objectivism** (“that social phenomena and their meaning have an existence that is independent of social actors” p17) and **constructionism** (“that social phenomena and their meanings are continually being accomplished [*and revised*] by social actors” p18). Saunders et al (2007) equate constructionism with **subjectivism**.

Constructionism and Constructivism: A Distinction?

Constructionism is generally considered an ontological position which holds that reality and meaning is created socially (i.e. constructed by the group) and is hence an ‘inter-subjective’ philosophy.

Constructivism is generally considered an epistemological position which holds that meaning and understanding is constructed subjectively (i.e. on an individual level.)

To connect the two concepts, constructionism may also be known as ‘social constructivism’.

2) Epistemology – Where might NLP sit?

There are numerous ‘schools of science’ with their own epistemology (theory of knowledge – what it is and how we gain it). Like the dialectic construct created above for ontology, we could use the same Objective – Subjective continuum as a convenient label for epistemology. On one extreme there is the argument that knowledge is attainable with the researcher being independent to the findings. At the other extreme there is the position that knowledge cannot be attained without the researcher becoming part of those findings.

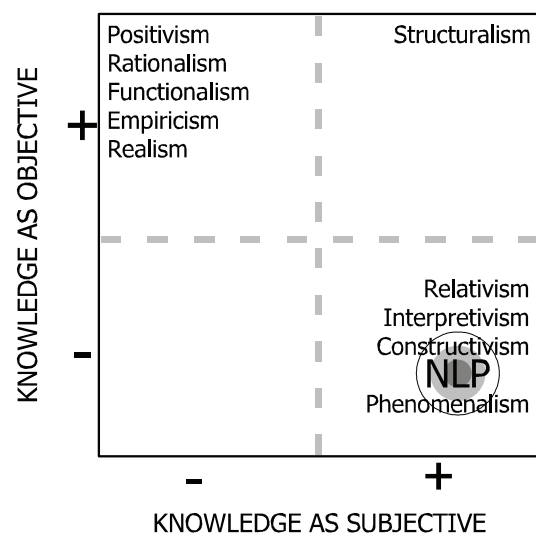


Fig 2. Epistemological Positions

The table below gives a brief overview of some of the scientific positions:

EPISTEMOLOGY	DESCRIPTION
Positivism Empiricism Realism Rationalism Functionalism	<ul style="list-style-type: none"> • Positivism, logical positivism and postpositivism are different strength arguments for a similar position, i.e. that the world is objective and knowable (to different degrees) through ‘scientific method’, observation and numerical measurement. Robson (2002) reports that positivism is considered the ‘standard view’ of science and that the difference between positivism and postpositivism is that whilst postpositivists also believe that there is one objective reality, it can only be known “imperfectly and probabilistically”. According to Creswell (2003), positivism is deterministic, where causes determine measurable effects. Positivistic research needs to be carried out in a value free way. • Empiricism is a broader term of positivism where “only knowledge gained through experiences and the senses is acceptable” (Bryman 2001, p8). Knowledge through indirect sources such as reason are not acceptable. • Realism takes the view that “what the senses show us as reality is the truth: that objects have an existence independent of the human mind.” (Saunders et al 2007, p. 104). Bryman (2001) reports that there is also ‘empirical realism’ which takes the view that there is an external reality separate to us and this reality can be understood through appropriate methods. • Rationalism and Functionalism are further examples of philosophies where the external world is objective and the researcher is seeking a rational explanation of why something is happening.
Structuralism	<ul style="list-style-type: none"> • Structuralism is a form of dualism, where structure is considered the ‘real’ world beneath meaning. • There is a real world and the mind interprets it via deletion, distortion and generalisation (Dilts & DeLozier 2000a). • According to Saunders et al (2007), radical structuralism is involved with structural patterns such as hierarchies and relationships. It is an objective perspective of subjective phenomena that cannot easily be observed.
Relativism Interpretivism Constructivism Phenomenalism	<ul style="list-style-type: none"> • Relativism, interpretivism, constructionism and phenomenism are all linked in that they consider reality and knowledge to be subjective. • With relativism, a ‘truth’ is always relative to some particular frame of reference. According to Robson (2002), relativism takes the view that there is no external reality independent of human consciousness. • Interpretivism takes the view that all knowledge is a matter of interpretation and according to Bryman (2001) its intellectual heritage includes the hermeneutic-phenomenological tradition and symbolic interactionism. • With constructivism, we cannot know any ‘external’ world, we only ever analyse our internal constructions of the world (which are in turn based on our interpretations). Our knowledge is constructed and does not necessarily reflect the external world. Hall (2001, p24) proposes that: “Constructivism means that we do not deal with the territory (‘reality’ beyond our nervous system), but only our own constructed internal reality.” According to Robson (2002) constructivism is the heir to relativism and is also known as interpretivism. According to Dilts (1998) it is another term for idealism. Social constructivism may also be known as constructionism (which Bryman (2001) classes as an ontology). • According to Bryman (2001), phenomenology (and hence phenomenalism) is an ‘anti-positivist position’ which views human behaviour as a product of how people interpret the world. It attempts to see things from that person’s point of view.

The objective and subjective scientific positions have arguments for and against. Darmer (2000) argues that the positivistic objective approach can cause paradoxes in management theory that the subjective approach does not. This is primarily because the terms and theory have to be defined by a person or some people who do not have an objective view. Even if it is argued that the theory is a result of objective analysis, the actors can then only interpret theory from their own personal perspective/situation. On the other hand, the subjective approach could be criticised as being less credible from a scientific perspective as it relies on the values and judgements of the researcher. Also, the findings of the study may be harder to generalise because they may be representative of that study only.

There appears to be some agreement in the NLP literature as to the epistemology of NLP. It is slightly less clear as to whether NLP is considered an epistemology in and of itself (e.g. Jacobson 1994, Dilts & DeLozier 2000a) or whether it fits into one of the categories of epistemology. Hall (2001, p23) proposes that NLP is a constructivist epistemology as "it explores how the brain creates (or constructs) internal representations that thereby generate our states of experience." Tosey & Mathison (2003, p377) concur that: "NLP may be constructivist in its emphasis on the way people create, act according to, and can change and reconstruct, their 'maps of the world' ... [and] how such maps are constructed, utilized and changed." Tosey & Mathison (p379) also go on to say that NLP is based on Gregory Bateson's 'cybernetic epistemology', in that "it is the process of perception and conceptualization (through language that create individuals' experiences)." An exception to NLP being a constructivist epistemology is Dilts' (1998) suggestion that NLP is actually a structuralist epistemology.

Since science is not simply an objective positivist field, perhaps NLP *can* be considered a science if researched effectively from a more subjective constructivist/interpretivist position.

Scientific Research

There are two more factors that will be part of any scientific based research, the approach (deductive or inductive) and the strategy (quantitative or qualitative).

1) Approach: deductive versus inductive.

According to Bryman (2001), deduction begins with a theory that leads to a hypothesis. Data is then collected and the findings lead to the hypothesis being confirmed or rejected. The theory is then revised accordingly. Induction on the other hand begins with observations and findings which then lead to theory making to categorise and/or explain

those observations. Simplified, deduction is about testing theories and induction is about building them (Saunders et al, 2007).

When there is no hypothesis to prove or disprove, the nature of research tends to be exploration rather than validation. Theory will come from the data and for this reason, the approach is considered inductive as opposed to deductive. Jacobson (1994) argues that “NLP is not based on theory. It is based on the process of making models” (suggesting that NLP is an inductive as opposed to deductive approach).

2) Strategy: Quantitative versus Qualitative

The research strategy will determine what the researcher will actually do to gather data. Traditionally, the strategy will be either quantitative (i.e. based on quantity and measurement) or qualitative (i.e. based on quality and meaning). Quantitative is usually an objective strategy and qualitative is usually a subjective strategy.

In an NLP context, quantitative methods might include measuring physiology and neurology (eg. via EEG, EOG, EMG and fMRI) or statistical analysis of large scale numerical/score based questionnaires and scales. Qualitative methods might include open response questionnaires and surveys, interviews and personal reports of their experiences.

A Summary of Scientific Research Methodology

Simplified summary table of scientific research methodology

Position	Objective	Subjective
Ontology	Objectivism Materialism	Subjectivism Constructionism Phenomenology Idealism
Epistemology	Positivism Rationalism Functionalism Empiricism Realism	Relativism Interpretivism Constructivism Phenomenalism
Approach	Deductive	Inductive
Strategy	Quantitative	Qualitative

An alternative research methodology is to take the route of **pragmatism**, where you select the most appropriate philosophy and approach for your specific research. It may be that rather than a positivistic or interpretive stance, you utilise both philosophies and then use a mixture of qualitative and quantitative methodologies. This is known as '**mixed methods**' and the advantage of using this approach is in not having to argue out the pros and cons of positivist and interpretive philosophies.

Can NLP be 'Proven to Work' Scientifically?

NLP is the study of subjective experience and it makes no claims for either an objective world or objective knowledge of a world (independent or otherwise). All the principles and techniques of NLP are designed to work subjectively.

An overall critique of any research methodology involving NLP is that the researcher cannot help but become part of a self-referencing system as soon as he attempts to uncover and/or provide an intervention to an issue. Westenholz (1993,p40) argues: "That the researcher is defining the external world as having changed naturally raises the interesting question of who is competent in defining what the world looks like. Ultimately, the researcher herself falls victim to her own conceptual frame of reference and consequently the researcher and the individuals observed are all of a piece."

It could easily be argued that the researcher cannot take an objective "view from nowhere" (Nagel 1986), and at best will only be able to take a meta, 'third perceptual position' (Dilts & DeLozier 2000b). Ironically, the researcher will be prone to an inadvertent self-fulfilling prophecy in which by looking for particular phenomena the researcher will find such phenomena, perhaps at the expense of other useful data. It is to be recognised that the resulting information from any subjective research is likely to be the researcher/practitioner's bias and interpretation based on the subject/client's own bias and interpretation of their subjective experience!

As to whether NLP 'works' or not, we need to consider what we are testing. NLP techniques are open to many confounding variables, for example in the performance of the practitioner, the 'readiness' of the client and the appropriateness of the environment. It is challenging to provide consistency across interventions and therefore difficult to 'prove' that NLP works. As Carrol (ND) states: "This is not to say that the techniques won't work. They may work and work quite well, but there is no way to know whether the claims behind their origin are valid. Perhaps it doesn't matter. NLP itself proclaims that it is

pragmatic in its approach: what matters is whether it works. However, how do you measure the claim 'NLP works'?"

NLP lends itself to the subjective research methodologies and to the qualitative strategies of personal reports, interviews, surveys and questionnaires. However, with the subjective methodology comes the rejection of absolute truth and proof. Subjective research tends to be inductive and hence is about building theories and models rather than testing them rigorously for scientific validation. Whilst NLP may struggle to be validated according to the positivistic 'traditional' science, there is certainly a case to be made for a constructivist/interpretivist scientific platform for NLP.

Also, with the advances in technology (e.g. MRI brain scans), it may be possible to add objective data into the pot. A pragmatist mixed methods approach could provide some interesting and scientifically credible results.

Further Challenges for NLP Researchers

Although NLP is a subjective approach, it does seem to have models that apply to everyone. It could be said that some of the concepts in NLP are generalisable and independent from the individual and are therefore objective. For example, anchoring happens whether we believe in it or not; our ability to learn is based on the nervous system building a network of anchored associations. Modalities exist, based on our five senses and submodalities exist, based on the qualities of our five senses. So although people may experience them subjectively, can we not demonstrate that a change in submodalities leads to a reported change in feeling experience? Perhaps the problem is the lack of consistency across practitioners and clients.

Yeager (1985) reports that NLP can fail for a number of reasons including experimenters who have an inadequate understanding of NLP and setting up test conditions where the procedures do not fit the study of subjective behaviour.

Hall (2001) points to the lack of distinction between primary states and meta-states as another reason for failure. This could be classed as a confusion of logical types where primary states and meta-states sit at different logical levels but are treated as the same level by the practitioner. An example would be in trying to use a simple kinesthetic anchor (which is a primary state technology) for proactivity (a meta state) without creating a specific frame. "Without knowing about meta-levels or meta-states, an inexperienced researcher would not get the predicted response and would naturally draw the conclusion (a hasty and unfounded conclusion) that 'NLP anchoring does not work'." (Hall, p107)

Beyond the practitioner and the client is the theory of NLP itself. There appears to be no core theory to NLP, nothing to which all its components comfortably link. It could be criticised as being a box of disparate tools that have no apparent overarching theme beyond being about the brain (neuro), language (linguistic) and/or behaviour and change (programming). Hall (2001, p15) suggests that: "There is very little core to NLP. Most of the techniques if viewed as expressions as implicit models of human behaviour and change, point in different directions. The model underlying anchoring is different from the model underlying parts which is different from the model underlying strategies... that we accommodate all these disparate models of human behaviour and change, and can utilize them all in any one intervention, proposes the character of NLP as an 'open theoretical system'." Tosey and Mathison (2003, p384) concur that NLP is "certainly eclectic", that it "could be regarded as a transdisciplinary knowledge" and that "there seems to be no evidence that writers on NLP aspire to make it a formal theory at all."

Without a theory to test, NLP as a concept cannot easily be researched deductively (which is the preferred approach for the 'scientific' positivist). Some of the components of NLP may be tested, both subjectively and more objectively (through physiological measuring devices). However, just because some of the components of NLP work can we then claim from this that 'NLP works'?

Biography

Joe Cheal has been working with NLP since 1993. As well as being a master trainer of NLP, he holds an MSc in Organisational Development and NLT, a degree in Philosophy and Psychology, and diplomas in Coaching and in Ericksonian Hypnotherapy, Psychotherapy and NLP. He is also a licensed EI practitioner.

Joe is a co-founder of the Positive School of Intrinsic Neuro-Linguistic Psychology (www.psinlp.com) and a partner in the GWiz Learning Partnership (www.gwiztraining.com), working as a Management & Organisational Development Specialist.

Further Reading

This article was written before two important publications:

- 1) *"Neuro-Linguistic Programming: A Critical Appreciation for Managers and Developers"* by Paul Tosey & Jane Mathison (2009). I would strongly recommend reading chapters 10 & 11.
- 2) *"The Clinical Effectiveness of Neurolinguistic Programming: A Critical Appraisal"* edited by Lisa Wake, Richard Gray and Frank Bourke (2012).

References

- Bandler, R. (1985) *"Using Your Brain For a Change"* Real People Press
- Bryman, A. (2001) *"Social Research Methods"* Oxford University Press
- Carroll, R.T. (ND) "neuro-linguistic programming (NLP)" *The Skeptic's Dictionary*
<http://skepdic.com/neurolin.html> (Accessed 11/02/07)
- Creswell J.W. (2003) *"Research Design: Qualitative, quantitative, and mixed methods approaches 2nd Ed"* Sage Publications
- Darmer, P. (2000) "The subject(ivity) of management", *Journal of Organisational Change Management*, Vol. 13, no. 4, pp 334-351.
- Dennett, D. (1992) *"Consciousness Explained"* Allen Lane: Penguin Press
- Dilts, R., Grinder, J., Bandler, R. & DeLozier, J. (1980) *"Neuro-linguistic Programming: Volume I: The Study of the Structure of Subjective Experience"* Meta Publications
- Dilts, R.B. (1994) *"Strategies of Genius: Volume 2"* Meta Publications
- Dilts, R.B. (1998) *"Modeling with NLP"* Meta Publications
- Dilts, R. & DeLozier, J. (2000a) *"Encyclopedia of Systemic Neuro-Linguistic Programming and NLP New Coding A-M"* NLP University Press
- Dilts, R. & DeLozier, J. (2000b) *"Encyclopedia of Systemic Neuro-Linguistic Programming and NLP New Coding N-Z"* NLP University Press
- Hall, L.M. (2001) *"NLP: Going Meta: Advanced Modelling Using Meta-Levels"* Neuro-Semantics
- Jacobson, S. (1994) "Neuro-Linguistic Programming", *INFO-LINE*, American Society for Training and Development, April (adapted version at <http://sidjacobson.com/institute/history.html> accessed 08.02.2007)
- Nagel, T. (1986) *"The View From Nowhere"* Oxford University Press
- O'Hear, A. (1990) *"An Introduction to the Philosophy of Science"* Clarendon Press
- Robson, C. (2002) *"Real World Research 2nd Ed"* Blackwell Publishing
- Saunders, M., Lewis, P. & Thornhill, A. (2007) *"Research Methods for Business Students 4th Ed"* Prentice Hall
- Searle, J. (2005) "The Phenomenological Illusion" in *"Experience and Analysis, Proceedings of the 27th International Wittgenstein-Symposium"*, edited by Reicher, M. and Marek, J. (<http://socrates.berkeley.edu/~jsearle/PhenomenologicalIllusion.pdf> accessed: 10th October 2007)
- Tosey, P. & Mathison, J. (2003) "Neuro-linguistic programming and learning theory: a response" *The Curriculum Journal* Vol.14 No.3, pp 371-388
- Vogt, V. (1971) *"The World of Null-A"* Sphere Books
- Westenholz, A. (1993) "Paradoxical thinking and change in the frames of reference" *Organisational Studies*, Vol.14, No.1, pp37-58.
- Wilber, K. (2000) *"A theory of everything: An integral vision for business, politics, science and spirituality"* Shambala: Boston
- Yeager (1985) *"Thinking About Thinking with NLP"* Meta Publications