THIS IS a development of an earlier paper which described in outline a systems-oriented paradigm for hypnosis. The primary emphasis is on developing a classification of the sub-systems of the human being which are of primary importance in the theory and practice of hypnosis.

The general categories chosen are internally or externally oriented, active or passive. Though other, minor, ones are noted, the major sub-systems with which the practitioner of hypnosis has to deal initially are the muscular, the vocal, the visual and auditory. The tendency of mainstream hypnotic procedures is to close down all these systems except the last.

The second stage of most hypnotic procedures involves dealing with various internally oriented systems.

The primary ones of importance here are the audio-verbal, the visual (imagination), the kinaesthetic and the affective (emotional).

It is emphasised that these sub-systems are interconnected in somewhat different ways in different individuals and one of the tasks of applied hypnosis is to establish the nature of the connections in a particular case. In practice this task is achieved by methods which will often be familiar, but seen in other paradigms as being "tests of hypnotic susceptibility".

A practical consequence of this paradigm is that hypnotic practice will tend to involve far more questioning of the subject, and an example of an induction is given to illustrate the application of a systems-oriented approach.

Systems-oriented hypnosis – classification of major systems and applications

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INTRODUCTION

In an earlier paper[1] a systems-oriented paradigm for hypnotic phenomena was proposed. The greater part of that paper was devoted to the description and classification of other paradigms - conceptual frameworks - which have been used in this field and relating them to the systems-oriented one.

The central ideas which were presented in that paper were as follows.

** The human brain and body are organised into a very large number of recognisable sub-systems. Medical and biological sciences have established this fact beyond doubt.*

** There is a large body of experimental and experiential evidence which demonstrates that hypnotic techniques can affect the functioning, often in quite dramatic ways, of a large variety of these sub-systems.*

** We may, then, define Hypnosis as a SCIENCE - the practical science of altering the functioning of very many of the internal systems of the mind and thereby, indirectly, the body in a naturalistic way.*

** The word hypnosis will NOT be used to describe a state: the use of phrases like "hypnotic state", "hypnotic trance" etc. should be avoided because of their suggestion that there is one simple and unique change in the functioning of the mind which is involved in the science of hypnosis. Such phrases can be compared with "medicated state" - of no scientific value unless the medication prescribed is defined.*

** All earlier paradigms were seen to involve that fallacy of thought which is over-generalisation. Each took one particular change of function of a particular sub-system and elevated it and it alone to be the central and determining phenomenon in hypnosis.*

** This new conceptual approach harmonises well with all other scientific medical theories. It should lead to far better communication between hypnotherapist and medical professionals, and a readier acceptance of the discipline by them and others who require an acceptable rationale for a field of knowledge.*

We may, in fact, take this point a great deal further. The original inspiration for what has been termed "The Morgan Proposition" came in fact from the interest of the author for some years in the exciting and burgeoning new science of Complex Systems. This science, which draws its material and members from disciplines as diverse as Economics, Biology and Mathematics, promises in the eyes of some to be "The major new theory that unifies all the sciences"[2]. This may be an exaggeration, but it does seem clear that an attempt to disentangle the intricacies of the functioning of complex systems will be high on the agenda of science well into the next century. The human mind is a complex system par excellence, and for the science of hypnosis to see itself as the practical one of changing such a complex system will place it right in the mainstream of scientific thought, where it can both benefit – and benefit from – work in other systems-oriented sciences.

With this as a distant goal, the present paper attempts to put some flesh on the bare bones of the ideas presented in the earlier paper. It will be assumed that the reader is familiar with a variety of standard hypnotic procedures and phenomena, such as can be found in most standard texts such as Hartland[3]. The bulk of the paper will then be devoted to re-ordering such knowledge within a systems-oriented framework, the primary purpose of which is to give familiarity with this point of view and an indication of the practical as well as theoretical value of the perspective.

Some of the ideas presented here have been previously published for a limited audience in the form of lecture notes for post-graduate courses in hypnosis for professionals run by the Psychology Department of Leeds University[4,5].

There will be no need to be familiar with the literature of Complex Systems in general since Theoretical Systematic Hypnosis is as yet at too early a stage of development to draw substantially from that source, but interested readers might care to enter the field through some of the more popular literature available[2,6].

A MAJOR CLASSIFICATION OF SYSTEMS

We will begin by classifying sub-systems of the mind and body in a way which is general but oriented towards the science of hypnosis.

We may first observe that complex biological systems of all sizes - from single cells through organs, individuals, families, societies and species to ecosystems - generally have a recognisable **interior** and **exterior.**

As a consequence of this it is also generally the case that any biological system has distinct sets of sub-systems which relate to the internal and external environments respectively. Let us exemplify this principle by reference to the primary system of interest in hypnosis: the individual.

We note that the muscular system, with its associated nerves, has two components. The **voluntary**, which is the system of muscles which act on the **external environment**, whether by moving things (hands, arms, legs...) or by signalling (facial expressions, body language etc.) and the **involuntary**, which is generally concerned with the **internal environment** – maintaining the circulation, digestion etc.

The sensory system also has two distinguishable components: the **exteroceptors,** which respond to signals from the surface of the skin which give information about the *external environment,* and the **proprioceptors,** which give information about the *internal environment* such as the state of the bladder, muscles, digestive organs etc.

The nervous system as a whole is commonly divided into the **somatic** nervous system, which is the part we are normally conscious of and is primarily externally oriented and the **autonomic** system which is directed primarily to regulating the internal environment of the individual and is generally involuntary in its action.

With the above examples in mind we may make the following distinctions.

An **externally oriented** sub-system is one which relates to the external environment of the primary system of interest, whereas an **internally oriented** sub-system is one which relates to the internal environment of the primary system. The word "*oriented*" is important, as both kinds of sub-systems will, of course, be internal to the primary system.

The second major division of sub-systems is between **active** and **responsive**. The former term will refer to sub-systems which act on or change the primary system's environment (internal or external), while the latter will refer to sub-systems which respond to or sense the conditions in the primary system's environment (internal or external).

When the primary system is an individual then the archetypal active sub-system is the muscular system and the archetypal responsive sub-systems are the sensory systems, both of which we have already classified into externally and internally oriented parts.

1 Morgan, J.D., 1993. A systems-oriented paradigm for hypnotic phenomena. E.J.C.H. 1. 26-34.

2 Lewin, R. 1993 Complexity: life at the edge of chaos. Dent. 3.

3 Waxman, D., 1991. Hartland's Medical and Dental Hypnosis (3rd Edition). Bailliere Tindall.

4 Davies, Peter, & Morgan J.D., Sept. 1992. Hypnosis for Beginners. Leeds University Department of Psychology Lecture Notes.

5 Davies, Peter, & Morgan J.D., Oct. 1992 . Some Advanced Hypnotic Techniques. Leeds University Department of Psychology Lecture Notes.

6 Davies, Paul, 1987 . The Cosmic Blueprint. Heinemann.

FOUR SYSTEMS OF PRIMARY IMPORTANCE IN HYPNOSIS

With these elementary classifications in mind let us next look at the main systems which are active in an individual when in conversation with another, since this is the initial state of affairs from which hypnotic phenomena will in time be produced.

Under these conditions the individual is mostly *externally oriented,* with two active and two responsive systems usually functioning. The active systems are the muscular and the vocal, and the two responsive systems are the visual and the auditory.

Note the vocal system is activated by voluntary muscles, but is distinct enough from other muscular processes to be regarded as a sub-system in its own right.

In everyday language we may say that there is a lot of listening and talking, looking at each other and moving, especially of hands, arms and faces. These four systems dominate the functioning of the individual under these conditions so completely that it is useful to remember these as the Big Four.

Four systems dominate the functioning of the individual so completely, it is useful to remember these as the Big Four

This is, of course, only a first approximation. Let us note other subsystems which are active, but not in a very significant way. The responsive sub-systems of touch and smell are probably active, but are playing very little part in the proceedings – though notice that if we were considering a session of aromatherapy it would be precisely these two systems which would be most active in the patient. The responsive systems which determine orientation in space, or the external temperature, or taste are also unlikely to be significant.

We are comparatively poorly provided with externally oriented active sub-systems other than the two mentioned above. We may emit pheromones from specially adapted glands to indicate our emotional state, and we may also change the colour of our faces to the same end, but neither of these has much impact on the external environment most of the time.

But for most day-to-day purposes we rely on physical movements or speech. We cannot, like some fish, produce large electrical currents nor, like many creatures, secrete poison.

We will later look at internally-oriented systems, but as a general rule these are of secondary importance in our initial situation of being in conversation, in which the attention of each individual is primarily outwardly-directed.

With these simple classifications in mind let us take a fresh look at typical changes that are produced in the course of hypnotic procedures.

Eye Closure

From the time of Braid, who asked his subjects to look fixedly at a bright object – normally his lancet case[7] held "from eight to fifteen inches from the eyes, at such a position above the forehead as may be necessary to produce the greatest possible strain upon the steady fixed stare at the object" - to the present standard method of asking the client to stare at "a spot on the ceiling, slightly behind you... and look upwards and backwards at it"[3] it has been a common practice to ask the subject to force the eyes into an unnatural condition which will, *for purely physiological reasons*, result in tiredness of the eyes and consequent early closure. A related technique, beloved of film producers, involves getting a subject to follow with the eyes the movement of a bright object at close distance, which is another unusual activity inclined to tire the eye muscles.

A technique which involves a higher order system in the individual is for the hypnotist to stare fixedly at the subject from a very close distance.

This naturally arouses a defensive response in the subject to what is instinctively interpreted as an invasion of personal space. Since the conditions of the interaction prohibit the natural response of moving away, eye closure is the only available recourse.

Notice that in each case, however, the common factor is that **the hypnotist is using a natural**

property of the system to close down the externally oriented visual sub-system.

Of course, the same result can be achieved by simply asking the subject to close his or her eyes. And in the context of scientific hypnotherapy this is often far more economic of time.

The argument in favour of starting a session by producing some phenomenon which the client can interpret as being an *involuntary* response to the hypnotist's will is that it impresses the subject with the power of the hypnotist and therefore makes it easier to make further changes. It is the route adopted in earlier authoritarian and quasi-magical paradigms.

The arguments against it are that it loses far more than it stands to gain if the attempt fails; it can consume a lot of time and will often involve a system of no relevance to the system which is causing a problem.

Thus, the ability to induce hand-levitation has no direct bearing on a problem which involves, let us say, the grief of a bereavement. It will be argued here within a modern, permissive and scientific paradigm that such effects, irrelevant to the changes which are really needed, will be avoided unless demanded by the client. Thus, in particular, we may as well simply ask for the eyes to close if the goal is merely to close down the externally-oriented visual system.

Relaxation

However it is done, let us note again that the effect is *to render quiescent one of the Big Four sub-systems*.

What happens next? In most modern practice, relaxation is the next goal, and every practitioner has her or his own pet form of words, all of which have the tendencies:

a) To fix the attention on the internally oriented responsive system of the proprioceptors in the muscles.

b) To close down the externally oriented active sub-system of muscular movement.

Phrases like "*becoming as heavy as lead*", "*limp and slack*", "*more and more tired*" are all designed to achieve these ends.

The simple words *relaxed* and *sleep* which are associated in most people's minds with a condition of relaxed muscles are also powerful triggers.

The other major technique used at this stage is to activate the imagination. We will have more to say about this later, but here we may simply classify it as an internally oriented aspect of the visual system – it deals not with the external environment per se, but the ideas within the mind which, relative to an individual, form part of the internal environment. The common practice is to request the subject to imagine being in a specified location which is presumed to have a relaxing effect, whether it be a sunny beach, a peaceful garden or a carpeted stairway leading down into a safe room.

It will now be apparent why eye closure is usually made a first step; because it is rather hard to activate the internally oriented visual system when the externally oriented one is active.

There are exceptions however. I find numbers of clients who can readily visualise with open eyes staring at some neutral surface.

Notice that there are two mechanisms which underlie the efficacy of this visualisation technique in aiding relaxation.

The obvious one is that images of a peaceful place will evoke the corresponding muscle tone by the simple principle of association.

The second is that since the subject is now functioning in a mode which is very close to dreaming – eyes closed, imagination active, reasonably relaxed – there is a tendency for the internal systems to drift still more into that very familiar dreaming mode and become yet more relaxed and involved in the visual experiences. This may be verified by the simple experiment of asking the subject to visualise a non-relaxing and active scene – I recall using disco-dancing as a scene in an induction, for example. It can produce just as complete a relaxation of the muscles and total absorption in the imagery as can lying on the beach.

By this stage of the induction there has, then, usually been direct action to close down two of the Big Four externally oriented sub-systems: muscular action and sight. As a part of this we may find the activation of two internally oriented subsystems: imagination and a sense of muscular relaxation.

Speech

We may now mention the third of our Big Four: Speech. I have never come across an induction in which it is suggested that the subject does not speak, neither do I recall an inability to speak listed in the tests of hypnotic responsiveness. Yet it must be a very common experience for the practising hypnotherapist to observe subjects who clearly find it very hard to vocalise.

Normal conversation proceeds smoothly because there are a number of cues, some vocal and some visual, which indicate when one speaker is about to stop and the other may begin. In a hypnotic induction the hypnotist simply never provides such termination cues. (S)he expects to

[7] *Braid, J., 1843. Neurypnology or the Rationale of Nervous Sleep considered in Relation with Animal Magnetism. London: Churchill. Reprint edition; New York: Anne Press, 1976*

Picture by courtesy of Butlin's Limited

A scene of disco-dancing in an induction can produce as complete muscle relaxation and total absorption in the imagery as lying on the beach

go on talking without interruption and this expectation is communicated by the absence of cues. Eye closure reinforces the effect, because it prevents any visual cues being perceived and general relaxation augments it further because the general atonicity of muscles will extend to larynx and mouth muscles. These factors all tend to produce aphonia.

In practice we might use, if we were so inclined, an induction based on the vocal speech sub-system and a conscious understanding of the above principles. It might run as follows.

"***As you become more deeply hypnotised it will become impossible to speak and so, if you wish to communicate, it will be through nods and shakes of the head. Do you understand?***"

Most people will tend to nod at that point, which will indicate an almost immediate shift to a non-verbal mode. If the subject does not nod, then say: "***Now, let me see a nod of the head ... good. And a shake ... good. If you ever want to end the session just shake your head like that. Do you understand?***" (At that point the response is much more likely to be non-verbal.)

If we then ask the eyes to close, and suggest general relaxation, with a sprinkling of a few questions which require only a *Yes* or a *No* answer, such as, "***Does your arm feel relaxed now?***" etc., then in by far the greater proportion of people the vocalising sub-system will be effectively inactivated.

This can be tested quite easily by asking a question to which a word or phrase is required, such as, "***Does your hand feel warm or cold?***" If the intonation leaves a certain ambiguity as to whether this is a direct or rhetorical question so much the better: i.e. omit the vocal intonation which cues a response. Typically there will be a great slowness of response and obvious signs of difficulty in speaking, which can be responded to as follows before the words are actually formed.

"***Never mind. You are already too deep to speak, as I said you would be. From now on it will be quite impossible for you to speak unless I direct you to for a special purpose.***

But remember that you can always request me to stop with a shake of your head. Show me that you can still do that." (Pause for shake.) "***Good. Now I will rephrase my question so that you may signal. Is your hand warm?***"

If, on the other hand, the subject *does* manage to vocalise (and as a general rule there will always be the exceptional subject who will fail to respond to a particular procedure), then no credibility is lost because a direct challenge has not been made.

Indicating new techniques

This example would harmonise with the repertoire of someone working in an authoritarian paradigm in which both participants expect the

hypnotist to demonstrate power over the subject. It is given here to show how the clear thought of a systems-oriented approach can suggest obvious and easy new techniques which seem to have been overlooked down the years purely because of the absence of a systematic and methodical approach to our subject.

We have now discussed the reduction of the activity of three of the Big Four sub-systems to quiescence. The subject now has little residual muscular tonicity, no external vision and no power to vocalise.

The fourth sub-system is that of hearing. It is clearly important that this should be retained in the context of hypnosis. It is, however, commonly the case that the hypnotist will attempt to limit the scope of this sub-system to attend only to his or her voice. For many people this is bound to happen in any case because, after all, there are at that stage unlikely to be any significant auditory stimuli which are in competition with the voice.

This condition – with only listening to the hypnotist left active out of the Big Four initially active systems – is what perhaps writers or speakers have in mind when they refer to a subject as "having been hypnotised", and in the context of hypnotherapy today it is probably an initial goal of the therapist to induce this condition. However it is foolishness to use this as a definition of a hypothetical "hypnotic state" for the following reasons.

If we are using atonicity of the muscles as a defining characteristic, then what are we to make of subjects in whom a catatonic state may as easily be induced?

(Recall the one-time popular stage phenomenon of inducing catalepsy in an individual so great that the hypnotist was able to sit on the subject's rigid body when it was supported only at feet and neck.)

If we are to make quiescence of the externally oriented visual system a necessary condition, then what are we to make of the ample evidence of "open-eyed trances" – again the stage act provides copious examples – where there is obvious awareness of the surrounding world?

Equally there are plenty of examples of people speaking "in a trance", though often with modified tonal range.

The conclusion drawn within the current paradigm is that all attempts to try to define a unique state are quite futile.

The condition described above may, for some individuals, and some purposes, be a useful starting point from which to achieve further changes in the operation of other systems in the human mind, but that is all.

For other individuals, and other purposes, quite other approaches might be used. The science of hypnosis is the science of making such changes, and will be able to achieve such changes more effectively once we have a clear and detailed idea of the enormous variety of changes we can make, and the principles used in making those changes.

FOUR IMPORTANT INTERNALLY ORIENTED SYSTEMS

We have, however, noted that the general trend of the common hypnotic processes is away from externally oriented systems and towards internally oriented ones.

In the context of hypnotherapy this is scarcely surprising because the whole purpose of the exercise to change the functioning of some internal system or other. We will therefore next classify major internally oriented sub-systems of the brain and its associated nervous system.

In terms of the relationship of an individual with the external environment, interaction can be readily classified into four broad areas:

1) **Audio-verbal**
2) **Visual**
3) **Kinaesthetic** *(movement and touch)*
4) **Chemical** *(taste, smells, pheromone production)*.

To deal with these areas the brain has specialised sub-systems, each connected to corresponding sensors or muscles, glands etc.

Once such systems have been developed to deal with the external environment the systems themselves become a part of the internal environment of the brain. Thus we know that as a result of having developed a complex visual system to analyse the external world, it becomes inevitable that the system we know as imagination arises: images can be blended, re-run, edited and otherwise manipulated and used.

We know that the production of an image will, due to the interconnections between it and the other internal sub-systems developed by dealings with the outside world, produce results which are very like the results of seeing in reality the thing pictured. The ideo-motor effect, familiar within hypnosis, is a typical example of this, as is the familiar fact that imagining an erotic scene will

produce feelings and physiological responses similar to those evoked by the real scene. Thus a sub-system which evolved to respond to the external environment developed an active role in the internal environment.

In a similar way, once language had evolved as a means for an individual to communicate with others in its external environment there would come a stage when the words and syntax became rich enough for purely internal conversation to take place: verbal thought. We may see the same process recapitulated in the development of the infant: speech develops in response to the external environment but later becomes an internal resource.

These illustrate the general principle that an externally oriented sub-system, evolved to deal purely with the external environment, will nevertheless develop into a system which can have an internal orientation, so that we can expect a one to one correspondence between externally oriented systems and related internal ones.

But even without this generalisation it is a matter of common observation that we possess corresponding internally oriented systems:

1) We frequently regulate our own behaviour and thinking by means of internal verbalisations – "*I will first finish this job and then go out for a break.*"

2) We will also indulge in a great deal of visual thinking: manipulating in some way the images held in the visual system, perhaps about the past or planning future actions.

3) If we are thinking about actions we have done or may do, then the internal aspect of the kinaesthetic system is active: we can almost feel the movements of, say, getting dressed without necessarily either verbalising or picturing the process.

4) The last area is that of emotions or feelings – or affect as psychologists like to call it. It may need a little discussion to establish the connection between this and what has been called chemical communication with the external world – smell, pheromone production etc.

The point here is that as our species has developed, the higher order systems 1) to 3) have been growing, while the externally oriented system 4) has been shrinking.

When life began ALL systems of ALL kinds were purely chemical. At this very moment, furthermore, each cell of our bodies responds only to chemical factors – the enormous variety of hormones, molecules, atoms and ions - in its internal or external environment. Even the nerve cells follow this rule. There is no passage of electrons from one to the other as if they were part of an electrical circuit. Instead each deposits very close to its neighbours small amounts of transmitter substance molecules which may stimulate or inhibit their activity. For internal communication between the many sub-systems of the body we continue to use simple chemistry extensively, and the endocrine system – pituitary gland, thyroid gland, adrenal glands, pancreas, testes or ovaries, salivary glands etc. – generates on a massive scale the hormones which are the means of broadcasting to the body information about how to function.

Our emotional life continues to lean very heavily on this system: fear and excitement could scarcely exist without adrenaline, for example, and similarly sexual feelings depend strongly on the production of sexual hormones.

It is for these reasons that in this simple classification system the affective or emotional system is regarded as the equivalent internal system to the external system of chemical communication.

Broad classifications

The above classification of the major internal systems is designed to be a broad first approximation.

In a full development of our subject it will often be necessary to refine the classification further and distinguish sub-systems of the four major systems.

For example, we may distinguish the use of the internal visual system to recall past experience from its use to plan future experience.

Furthermore there is no suggestion that a particular classification is sacrosanct. There can be considerable and fruitful debate about the kinds and nature of the systems that we are dealing with within this paradigm. But for the present this broad fourfold classification is enough to allow us to make some progress in describing how the systems oriented approach is valuable in making sense of the strategies of hypnosis.

Subconscious

It is important to note that in the above there is no use of the terms "***conscious***" or "***subconscious***". We are not identifying internal systems with "subconscious" systems, nor are we identifying the audio-verbal system with "consciousness" as seems to be implied by writers

such as Shone.[8] If this were to be true then we would have to declare that most musical, sporting and dancing activities are not conscious, whereas it is obvious to most people that they are.

In terms of the present paradigm, the term "the subconscious" will not be used at all in technical discussions. It is misleading in the same way that the term "in hypnosis" is, for it suggests a spurious unity where none exists.

There is an incredible multitude of processes within the diverse systems of the brain and body of which we are not always aware. But we can very often become aware of them.

It is a common experience, for example, for one part of the brain to be actively but non- intrusively playing over a song, while the cerebellum is active in supervising the activity of walking and the verbal mind is active talking to a friend.

But within a second the balance between these can change and there is a relative drop in activity of the verbal centres, a relative amplification of the music and a focused attention on the movement as the individual starts to dance to the music.

In short, functions do not stay nicely compartmentalised into those of which we are clearly conscious and those of which we are only peripherally conscious, if at all. There is a constant flux.

Moreover, a major part of hypnosis consists precisely in making conscious things which are not normally so: the explicit recall of memories of which the person was not conscious; the control of internal functions which are normally run by the autonomic nervous system and are out of conscious control; the active awareness of vivid and dreamlike imagery either in the setting of formal hypnosis or of lucid dreams and so on. To use a fixed noun in such a context of variability can only lead to confused and unmethodical thought and so it is suggested that it be avoided.

Within the current paradigm, the question "***Is phenomenon X conscious or not?***" is not asked.

Instead we may ask the questions: "***How active is system A?***" or "***How is the activity in system A changing?***" and "***Is the activity or change in activity in system A having any effect on system B?***"

Thus we might answer: "***Yes, system A*** *(for example, a finger tapping response to a tune, or "automatic" writing)* ***is active. But this is apparently not affecting the audio-verbal system at all, since a verbal question about it reveals no awareness of the activity.***"

In some of the valuable experiments of Hilgard[9] on pain we find results such as the following. In a subject it was possible for there to be no connection between the system P of pain receptors and system A (the audio-verbal). There was, however, a connection between P and another sub-system related to K (the Kinaesthetic) because the pain could be signalled. It was also possible to arrange for P to be connected with A by means of some signal from the hypnotist, and then the pain *could* be reported.

Functions do not stay nicely compartmentalise d into those of which we are clearly conscious and those of which we are only peripherally conscious

Difficult to define

In short we can give a very clear description of the activity of various systems without using the tendentious concept of a vague and nebulous "**subconscious**", with obvious practical and theoretical advantages.

The word "**consciousness**" has been used above in its familiar, everyday sense. It is a concept which it is also notoriously difficult to define precisely, despite frequent attempts such as the recent one by Dennet[10], who also surveys other attempts.

The whole philosophy of the systems paradigm is that we should avoid such broad-brush concepts as "*conscious*" or "*unconscious*" or "*subconscious*" and follow the path which has proved to be so fruitful in the development of science and deal only with questions which can (if sometimes in principle only) be answered.

We will thus never say: "*Hypnosis is an altered state of consciousness*", a statement which, if analysed, will be found to have virtually no information content.

Instead we should use terms such as: "*Hypnotic techniques T1, T2 ... were employed to increase the activity of systems A1, A2..., decrease that of systems B1, B2 ..., to enhance the effect of C1, C2 ... on D1, D2, while reducing or inhibiting the*

8 Shone, R. Outer-world and Inner-world Communication. E.J.C.H. 1.– P 42-46.

effect of systems E1, E2 ... on F1, F2 . . ."

The question whether or not the claimed changes have been achieved can generally be tested by methods, to be described below, which are familiar in the field or, in principle, by means of the various instruments which have been developed to measure activity in nerves and other systems of the brain and body.

INTERCONNECTIONS BETWEEN SYSTEMS

It was remarked in the earlier paper that any paradigm generates its own characteristic questions. With the above classification of some major systems in mind, together with our basic notions of active and responsive, the following questions on the interactions of internal systems naturally arise.

"***Can internal system X act on internal system Y?***"

"***Does system X respond to changes in system Y?***"

More generally we may ask how systems act on or respond to each other. When we think of designing an experiment to answer such questions we find ourselves led to practices which are very similar to the familiar "tests of hypnotic responsiveness", which have been current in the field for most of the century.

Thus if we are asking: "*Can the thought of warmth held in the audio-verbal system give rise to a sensation of warmth in the sensory system?*" we need to repeat (or get the person to repeat), "***Your (my) hand is getting warmer and warmer***" for a few minutes, and then ask for a report.

If we want to test for an action of the internal visual system on the same sensory system then we may say: "***Picture holding your hand in front of a fire. See the fire. It is bright …***" and so on. (The word "warm" is being deliberately avoided to minimise a direct verbal effect.) Again a verbal report will give a good idea of how much change can be reported. The difference between the two reports will give a qualitative idea of whether the audio-verbal or visual systems can most easily affect the sense of warmth.

We might answer the question: "*Can the visual system activate the kinetic system?*" by means of saying, "***Picture your right hand beginning to float. …***" and so on.

We might answer the question: "*Can the audio-verbal system activate the affective system directly?*" by saying: "***You are feeling very sad now. Tears will be coming …***" and so on.

We might be more refined and find out if a particular piece of music can have an even greater effect on the affective system, thus activating a sub-system of the internal auditory system which has been neglected in our large-scale classification.

We would expect a *priori* that we would get different results in different individuals, and it is not, therefore, surprising that experiments on the above lines, which are common in the literature of hypnosis, have revealed just such a variation.

Scientific Practice

We will next relate the above observations to a general feature of good scientific practice. When a scientist attempts to understand a complex situation the normal practice is to reduce the number of variables, ideally to two, and then to investigate how those two are related. In systematic hypnosis we would naturally like to follow the same fruitful rule.

In the above examples it is supposed that the questions were asked with no attempt to reduce the interference from other sub-systems which might have been active. But we would naturally expect that far clearer results could be obtained if such interference could be reduced. And, indeed, the experienced reader will realise that this is what so many of the procedures of hypnosis hoped to achieve. Much of the work of the hypnotist is designed to reduce the activity of all but a small number of systems – to put all the others into their lowest, or sleeping, level of activity. The interactions of the remaining few will then be revealed with great clarity.

Furthermore it is only to be expected that if the potentially inhibiting or confusing effect of other systems is removed, then it will be very much easier not only to observe but also to alter the functioning of the one or two which, ideally, remain active. The success of hypnotic practice, which does, generally, aim at this condition, provides strong evidence that this supposition is true.

It is anticipated that researchers in hypnosis who work within a scientific paradigm will find the systems approach congenial. Perhaps the only difference in reports will be the omission of the phrase, "*The subject was hypnotised*", and its replacement by a more precise description of what procedures were undertaken and what evidence was available in terms of observation, measurement and verbal report on the activity of major systems at the time a particular phenomenon was investigated.

9 *Hilgard, E.R. & Hilgard , J.R., 1975. Hypnosis in the Relief of Pain. Kaufmann.*

10 *Dennet, D.C. 1991. Consciouxness Explained. Allen Lane.*

Photograph by courtesy of Brookes & Vernon

To what extent can visualisation of a glowing family fireplace affect the sensory system and promote a sense of warmth?

Finding pathway to change

By contrast the person who wishes to apply hypnosis may feel that this approach does not help. The hypnotherapist, for example, is often in a position where what matters is not so much exactly HOW a particular change is effected, only that it IS.

Thus, for example, a common practice in achieving a response such as arm levitation is to use a plethora of mechanisms: verbal suggestions - "*Your hand will rise*"; visualisations – "*See the big red balloon tied to it, lifting it*" and tactile cues – "*You can feel the ribbon from the balloon tugging at your wrist. You can feel the lightness in your arm.*" In addition a number of higher order systems will be covertly employed: a need to please the practitioner or even to obey him may be activated.

Now, of course, in a therapeutic setting it is not possible to spend a great deal of time examining the interconnections between even the major systems: a complete battery of tests would be a matter for a psychological laboratory.

But, on the other hand, in the therapeutic setting there is generally no need for it either. The therapist should have as a goal a change in a particular sub-system S which is centrally involved in the presented problem. The starting point is always system A – the audio-verbal.

Therefore the hypnotherapist is only interested in establishing a pathway by which changes in A can affect S. In very many cases, in fact, the path is simply A→V(isual system)→S, with the two indirect links A→V and V→S being strong whereas the direct link A→S is weak.

In order to illustrate how one may obtain a great deal of the information needed for the methodical application of hypnotic techniques in a therapeutic setting, this paper will end with an example of an "induction." It is hoped that this will help the practitioner to see the bread-and-butter value of systematic hypnosis.

Example

This example of an "induction" is given in an abbreviated form, with explanation of the reason for each step. It is a little different from a real situation in that it is given with no reference to the particular system S at the centre of the presented problem. It will show a process in which information about the operations of the four major internal systems can be obtained quickly and naturally, and at the end of which the "subject" will be functioning in a way that would traditionally be called "hypnotised".

"***Just sit comfortably and close your eyes.***"

Externally oriented vision is switched off. All need for externally oriented action is removed: this system will soon become quiescent.

"***Now I would just like you to picture a room at home.***"

This is directed towards answering the question: "*Can internally oriented vision be activated via A?*"

Questions will then be asked to establish whether pictures are vivid, coloured, moving, etc. This is useful information, but notice also the indirect effects:

1) The attention is riveted by the questions, so that any distracting internal verbalisations, the bane of traditional hypnotists, are inhibited.

2) Attention is totally on internal matters, so external awareness has to diminish.

3) The person is in effect showing the hypnotist around his or her own home. This enhances a feeling of rapport, and also induces the sense of relaxation that is associated with being at home.

"***How are you feeling at the moment.***"

This can be followed up by detailed questions such as:

"***Do you feel warm? Heavy? Any discomfort?"***

These are designed to answer the following questions:

1) Is the client readily aware of inner sensations and emotions?

2) What is a baseline of such variables with which later changes may be compared?

3) Are there any discomforts, (itches, need to urinate etc.) which are going to activate distracting sub-systems of thought.

"***Next I would like you to remember vividly a happy day from your childhood.***"

This is directed to answering the two questions:

1) Is there a connection between the visual system and the affective system?

2) How completely and easily does the client activate previous operating systems? – in other words, *Is age regression likely to be easy?* **(The ability to do this can be valuable in a therapeutic setting.)**

There is a secondary reason for this choice: a child is typically more responsive to suggestions than an adult, because the adult defences have not been learned. (Compare the extensive evidence that children at about the age of ten show the greatest degree of hypnotic responsiveness as measured on standard tests[11]. Therefore activating more childlike systems within a client is likely to increase the influence of any suggestion made.

"What day are you remembering?" … "Tell me about it?" … "How do you feel?"

The above are just a few of the many questions that might be asked to activate as many as possible of the systems of childhood.

At this point, after about five to ten minutes, let us stop to look at what we will have found out at various levels about the client and what levels of activity are current in various sub-systems.

We will have found out how readily the audio-verbal system can directly activate the visual system and how vivid it is; we will have found out how easily that, in turn, can activate the affective system and how readily either activates the kinaesthetic system: did the feeling of pleasure make a smile come? Did the picturing of actions lead to small, corresponding, muscular actions? Were there clear sensations of touch associated with the pictures? And we will have found out how easily other, earlier systems can be re-activated.

Incidentally, but usefully, we will have been around the client's home, which can give a lot of psychological insight into the person. Was it tidy? Full of flowers? etc. We have also taken a quick snapshot of childhood, which can also be full of useful incidental detail: important adults, desires, etc.

While all this has been going on the attention of the client has been more and more on *INTERNAL* things, with the single exception of the external hypnotist. Those things have been familiar and pleasant, of great personal interest, and with relaxing associations. Consequently all defensive systems (these are important, higher order, systems which belong to a later paper) are inactivated. Muscle tone has, without the need for any direct suggestion, been reduced dramatically.

Finally we have noted that a regression to childhood systems will make any further suggestions much easier.

If we compare this with the result of a "standard" induction it will be found that in about the same amount of time the client has been brought to a roughly comparable condition in terms of the functioning of the major systems.

By the criteria of earlier paradigms it would be said that *"the client was hypnotised"*. But by the systematic route the hypnotist has discovered vastly more about the client's mind and how it works, as well as generally having achieved far greater rapport.

The one feature of this approach that a traditional hypnotist might be unhappy about is that the subject is still talking. *"But you have left one of your externally oriented active systems functioning. I don't call that a trance!"*

Let us consider the pros and cons of this. On the one hand we might concede that a non-speaking subject, other things being equal, will have an attention more tightly focused on the hypnotist's words. But other things are generally very far from equal in the two approaches. Let us see why.

One of the biggest problems for the traditional hypnotist is the suppression of the internalised system of speech – verbal thought. *"I wonder what he is going to do next? … I don't feel hypnotised. … Is he any good? … Am I any good? … My legs are going to get heavier, are they? … Well they are heavy enough already! I don't want them getting worse. I must go on a diet again …Now, what is a good diet? That reminds me … I will have to go to the shops on the way back.. etc. etc."* Now this sort of verbal day-dreaming certainly activates an internally oriented sub-system, and may lead to a relaxed state. But is there any evidence that it is of any use from a therapeutic point of view, over and above the placebo response at which ANY procedure, if it is believed that it will have a certain effect, will have?

Although hypnosis is the only science which may claim that the deliberate activation of the placebo effect is one of its techniques, it is to be hoped that there is more to the science than that. The evidence

[11] *Gardner, G.G. and Olness, K., 1981. Hypnosis and Hypnotherapy with children. Grune & Stratton.*

of school assemblies or church sermons, which millions have sat through in a mental condition very similar to the above, suggests that if a person is paying attention to an internal train of thought then any supposed "subliminal" effect of a voice from the outside is minimal.

An earlier generation of hypnotists prevented internal thought by taking a very authoritative and dominating approach which, in effect, cowed the average subject into paying total attention - the Sergeant-Major effect. But this approach is seldom used by today's hypnotherapist, and so other means of holding the attention are necessary.

The use of question and answer has the enormous advantage of making sure that the mind of the subject does NOT go off on some irrelevant tangent, does NOT occupy itself with doubts or worries and DOES focus continuously on the hypnotist's meaning. When these advantages are added to the enormous advantage of knowing so much more about how the client's mind is functioning, there is really no comparison. (And remember that there are some people who HATE sunny beaches, but will not say so unless asked.)

For further insight into the value of question and answer technique in hypnosis there is no better way than to read transcripts of Milton H. Erickson at work. An excellent source is Medical and Dental Hypnosis.[12] Such transcripts can be seen at a glance to be dialogue not monologue, and the effectiveness is clear. So it is not necessary to be working explicitly within a systems-oriented paradigm to find that questions are an invaluable tool in hypnosis. But, if you are working within the paradigm and are not telepathic, then the asking of questions is natural and inevitable.

CONCLUSION

In this paper we have attempted to put some flesh on the bare bones of a paradigm, in order to begin to turn it into a theory.

We have noted that a systems-oriented approach dovetails beautifully with the dominant scientific practice of simplifying a complex phenomenon by eliminating as many variables as possible.

Braid very clearly understood that he was selectively activating certain parts of the nervous system and inhibiting – sending to sleep – others, and called our science neurohypnology or neurypnology for short.

Others have lacked his clarity of thought but the common practice has nevertheless been to eliminate as many distracting sub-processes in the brain and nervous system as possible. Unfortunately Braid also started the idea of there being a special state of hypnosis, which has led the science into unnecessary confusion.

We have established the guidelines for theoretical and experimental systematic hypnosis as being the following. The task for the theory is to formulate a language which is based on answerable questions about the relative activity of key sub-systems and their connectedness. It is hoped that the earlier part of this paper provides the beginnings of such work. For the experimentalist the task is to answer such questions by observation.

In the final part of the paper some recognition of the different needs of the practising hypnotherapist has been offered, and it is shown how a systems-oriented approach can lead to valuable strategies and techniques in a modern, non-authoritarian context. More detailed considerations of techniques which apply to specifically therapeutic rather than hypnotic aspects of the work will be presented in a later paper.

The debate goes on …

The European Journal of Clinical Hypnosis stated in its launch edition that it sees Dr Morgan's ideas as the start of an immensely important debate over the future development of hypnotherapy. His second article has confirmed that view. Over two lengthy articles, Dr Morgan has set out his case for a more systematic approach to the way therapists employ their techniques. In our first edition the Journal said it would welcome not merely comments on the "Morgan Proposition" but detailed and considered contributions – on either side of the argument – to take this debate forward.

Responses have spread across the spectrum, from those dismissing it as merely "re-inventing the wheel" of systematic understanding of the hypnotic process … through those still uncommitted but wishing to see the argument expanded … on to those who share the EJCH's belief that this holds the potential for major advances.

The EJCH believes this will be a long-running debate, an evolving process, and is inviting further articles on either side of the argument. Articles submitted for consideration should be presented in the style described in our guide to contributors on Page 7.

[12] *Erickson. M.H., Hershman. S., Secter, I.I., 1981, Medical and Dental Hypnosis. Seminars on Hypnosis Publishing Company. Chicago.*