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# Reports and Communications

## Transdisciplinarity Through Structured Dialogue. Beyond sterile dualities in meetings to the challenge of participant impotence

by Anthony J.N.Judge

### Introduction

The 1st World Congress on Transdisciplinarity was held near Lisbon from 2-6 November 1994. The event was organized with the support of the Portuguese National Commission of UNESCO, the Transdisciplinarity Study Group for UNESCO, and the International University of Lisbon, under the auspices of the Centre International de Recherches et d'Etudes Transdisciplinaires (CIRET, Paris), UNESCO, the Council of Europe, and the Mayor of Setubal. It was opened by the President of Portugal.

The 76 invited participants were primarily French-speaking, with 33 from France. Other countries represented included: Argentine, Australia, Austria, Belgium, Brazil, Hungary, Italy, Japan, Poland, Portugal, Romania, Spain, Switzerland, USA. A preparatory meeting had been organized by CIRET at UNESCO in Paris in June.

The event was held in the Convento da Arrabida, a Franciscan monastery dating from 1542 but abandoned since 1854 (when religious orders were abolished in Portugal). The monastery has been taken over and partially restored since 1990 by the Fundação Oriente, with some buildings converted into a small residential conference centre (although many participants resided in nearby Setubal as guests of the city). The centre is part of the European Network of Cultural Businesses and Institutions located at Historical Sites. It is set in the Arrabida National Park on slopes overlooking the sea. Christopher Columbus is said to have meditated in a hermitage there prior to his explorations.

Given the nature and ambitions of the event, it would be inconsistent to describe it in any conventional way. The following sections are therefore designed to evoke an understanding of what it might, or might not, have been according to one's perspective.

### Transdisciplinary ambiguity

What indeed is transdisciplinarity and who could possibly be interested in it? As with many events that bring together unusual combinations of people, it is less interesting what it "is" and more interesting what a range of committed individuals assume it to be from their various perspectives. Lack of detail in any preliminary announcements then contributes to diversity and surprises.

Whereas many are familiar with efforts at interdisciplinarity over the past decades, transdisciplinarity is as yet poorly defined — if it does not lie beyond definition as commonly accepted. Clearly it is in some way associated with whatever can be understood to be "beyond" interdisciplinarity and a discipline-bound perspective.

What it might be is obviously of fundamental concern to philosophers, logicians and those concerned with any form of epistemology or challenges to conventional logic. And philosophers and mathematicians concerned with "complexity" were indeed represented at the event. But it is also of concern to physicists faced with the constraints and limitations of their methodology. But the technical questions of such disciplines do not prevent those from the social sciences from having their own understanding of its significance. Those present therefore included anthropologists, sociologists, mythologists, linguists, and semioticians. But there were also participants reflecting the special concerns of media communication, culture, ethics, architecture and information technology. And then there were those concerned with concrete forms of social and political action. Whilst many were concerned with various forms of theoretical integration of disciplines, others were concerned with integrative experience, as indicated by the number of psychoanalysts of various schools. Various religious perspectives were represented, as well as those of the plastic arts, literature and poetry. There were also traces of more esoteric concerns in some of the presentations touching on kabbalistic and other symbol-imbued traditions. Many of the participants were major authorities in their respective fields. This does not mean that there was any clear consensus on the nature of transdisciplinarity. However there was clear concern that the fragmentation of the disciplines was failing to serve society in the face of a complex of global problems and conflicting initiatives.

### A choir of disciplines?

It would be inspiring to imagine a choir of disciplines gathered together on such a challenging occasion. How would they divide into sections — and on the basis of what common qualities? How would their multi-part song take form as a self-organizing whole? With what insights would the functions of a Kapellmeister be performed — if such a role was necessary?

Would transdisciplinarity emerge as the musical form to which all perspectives collectively contributed — each according to some appropriate timing, each from an appropriate register?

Of course many of the participants did indeed sing according to the modalities of their respective discipline. There was much sincere effort towards articulation of the collective song. But like the tuning period of an orchestra, harmonies would emerge briefly before being swamped by discord from some other source. There were hints of unifying themes, but these were easily obscured by the enthusiasms of particular singers. One participant's unification could easily become another's strait jacket — although such mutual constraint could also be said to be evident in any choral context.

### Superposition of understandings

Transdisciplinarity might be thought of as a challenge to space-binding and time-binding learning. A congress would therefore tend to show evidence of superposition of layers of insight and understanding which in other circumstances might be separated over time and space.

This could be seen in the emphasis, from one perspective, on the conventional linear organization of the event. There were many solo presentations in sequence throughout each packed day. But, to the surprise of many, a significant number of these mirrored common themes that transcended conventional logics. The transcendence of duality was evoked in many ways.

But in a context where it was to be expected that every participant's understanding was necessarily challenged and stretched by unfamiliar insights, distinguishing fruitful insight from unhelpful distractions was no easy task. The event could thus be read and heard in a variety of ways through superimposed layers of meaning and noise. Participants were free to project significance into the dynamics or to strip them of meaning altogether.

In an event of this nature, requiring a configuration of complementary insights, must significance for one necessarily be meaningless to another for the congress to function effectively? Can such an event transcend its own limitations without the apparent presence of such conceptual hubris? How is the experience of hubris to be balanced against that of powerful harmonies?

### **Logistic shocks**

It is occasionally argued that useful communication in a conference can be most quickly evoked by subjecting participants to a shared shock of some kind. Clearly few organizers would be prepared to indulge deliberately in such risky exercises.

At a live environment offers many natural opportunities through which to subject or thermers to useful shocks. Scheduling and arrangements are liable to evoke northern nervousness under the best of circumstances. When should one start to panic: when transportation arrangements seem unpredictably fluid; when the event is opened in the absence of many participants; when hotel reservations have not been made; when there is no interpretation into a language one understands; when there is no complete programme...?

What better than to arrive in the dark and be required to walk for 10 minutes through a heavy mist to an undefined destination down a muddy track that a bus is unable to negotiate? The aesthetic experience alone offers interesting flavours to any exploration of transdisciplinarity.

Shocks of this kind can usefully force participants into a mental framework that is detached from conventional expectations. Responding in the moment to emerging configurations of circumstances then makes for a more harmonious experience than a stressful need for predictability. Surprises can be more effectively evoked, met and enjoyed. Encounters with other participants under such conditions then have a more realistic quality going beyond shared interests or congeniality. The reality of the event then permeates the content and process rather than being detached from them as a neutral framework. Taken seriously transdisciplinarity does indeed call for transformation of the framework within which it is considered and exercised.

### **Searching for keystones**

From within an architectural metaphor, any assembly of

disciplines can be seen as a configuration of walls and pillars. Each presentation effectively positions a new part of the structure. Participants can wander between the parts as they emerge—and to the extent that they can negotiate the various barriers and pitfalls of a complex building site. Finding one's way around is no trivial matter. Certain parts may make it easy to get lost—especially when the mist comes down and all sense of context and perspective is lost. One may have odd encounters with participants mysteriously busy in distant and unrequested parts of the structure. One may be drawn into furious activity in other more frequented parts.

Especially challenging is the difference in what is seen by different participants. Some seem only to see a rather primitive structure in the earliest stages of its construction—or in the final stages of its decay into ruins. Others seem to see a completed temple of integrative knowledge and insight in all its glory. Wandering around an atemporal structure that flickers unpredictably in this way between reality and potentiality is a real challenge to understanding.

Some participants seem to be engaged in constructing a roof in the absence of any substantive walls to support it. There are magnificent doorways which, in the apparent absence of any walls, seem to lack any justification—except as a powerful symbol of future possibility. Where do they lead? Marvelous windows seem to lack any support and yet let in light of unforeseen quality. And, as in the most famous Escher drawings, stairways to higher levels often seem to lead paradoxically back to their starting point, defying any normal sense of gravity in the process. Arguing in circles then takes on new meanings.

Most confusion seems to lie around the nature of the keystones on which any such edifice depends. It is one thing to construct walls and pillars—most disciplines have long practice in building conceptual edifices. It is another to find the form through which such knowledge structures can be meaningfully related to others to bear a load at a higher level. This is the challenge of conceptual scaffolding. Again, some participants have an almost mystical approach to the substance and design of keystones, others lapse into technicalities that fail to arouse confidence elsewhere. There is a sense that much work remains to be done.

Most challenging to the unwary is the apparent ability of some participants to work on higher floors of the structure when the lower levels do not yet seem to offer any substantive support. How do they get up there? Some seem to have specially powered elevators. What keeps them there? With what materials are they working? What do they think they are doing? Are there yet higher levels that one cannot see through the confusing mists of one's limited understanding? Is one effectively a ghost oneself to someone observing from another part of the structure?

### **War of the maps**

Under such circumstances it is useful to pay careful attention to those who offer maps and plans of the structure that is emerging into collective awareness. At such an event, many offer such maps. The event could even be described as a "map market" with some stall-holders making harder sales pitches whilst others seem relatively indifferent to the interest of

potential buyers. Their maps sketch in relations between certain parts or offer a general understanding of the whole. But there are difficulties with such maps. Often these are a consequence of the limited extent to which the map-maker has explored the structure as a whole. Some maps are imbued with the mystique and wisdom of antiquity. Others seem to be simply out-of-date. The map-maker may deny that certain features are part of the structure. Some maps are very sketchy indeed. Some are based on quite bizarre projections. Some provide an excessive amount of detail for only a very small part of the overall structure. Some are really only technical drawings relating to particular aspects of the construction. But it is also important to recognize that everybody does not need the same kind of map.

Most disturbing are the situations in which participants argue for the respective merits of their own map — effectively denying that of others. How can one find a way to reconcile the maps to facilitate the ability of people to navigate the structure? For even the process of discussion is fraught with difficulty when there is no common language and people are suspicious of the experience underpinning any given map they are offered. In French the “War of the Maps” (La Lutte Des-cartes) suggests an interesting twist to the challenge. It is of course possible that the higher dimensionality of the transdisciplinary arena makes it inherently unmappable—or transcendent to the normal function of maps.

### Coffee...what a break

There is now widespread recognition that the real business of meetings takes place at coffee breaks and meals. The coffee in Portugal is superb, even when served in quantity. Coffee and meals with a superb view can only be conducive to a higher order of reflection.

Coffee breaks are indeed a real relief from the substantive indigestion of lengthy presentations. A different pattern of communication ensues. It is this switch in mode which is poorly understood. Clearly the presentations provide substance for dialogue in the breaks.

And the breaks reframe the way in which the presentations are understood. They are necessary complements.

But as with the digestive or respiratory processes of the body, it is questionable whether organizers know how to get the balance right. Too much inspiration? Too little expiration? Or just plain breathlessness because of the high altitude? Maybe conferences need some communication analogue to breathing exercises — provided they can protect themselves from the ministrations of self-righteous conference gurus!

### “Trance-discipline”

Much has been said about the logical or other frameworks through which disciplines can be related or integrated. Much stress can be placed on the need for understanding of a single discipline before it can in any way be transcended. It is difficult to transcend that which one has not acquired or gained some competence in. But then what is a discipline—given that most disciplines find ways to disparage or deny the legitimacy of others?

Then too, there is a strong current, which was represented by some participants, favouring a more experiential approach

that is less dependent on ideas and more reflective of integrative, grounded experience. Many spiritual, aesthetic and physical disciplines stress this perspective.

A more shamanistic metaphor may be appropriate. In this sense the disciplines reflect the habitual patterned (and often limited) behaviours with which many are often unfortunately familiar in society today. Rather than a Kapellmeister, what the key player at a transdisciplinary event then takes on are the functions of a Shaman. Through some suitably repetitive conference ritual (not lacking at the 5-day event), the Shaman effectively evokes a “trance of the disciplines” allowing new insights of a “supernatural” order to emerge. Like the Kapellmeister, the Shaman uses disciplined chanting to good effect. Clearly to the detached observer, the sight of a collection of disciplines indulging in activity of a dubious nature can only raise questions and many doubts. And yet to others the “trance” offers experiential evidence of a higher order whose operations are understood as vital to the organization of everyday life. What indeed would entrance the disciplines and oblige them to constrain their habitual responses in useful new ways?

Perhaps it was no accident that so many psychoanalysts were present from Brazil — given the importance of shamanistic and voodoo traditions there.

### Transcultural transfiguration

But why would poets and artists of the highest repute choose to be present at such an event? They have never received much consideration from the harder sciences. And yet they too imagine a role for themselves in the transdisciplinary arena. It is tempting to accept that the sciences have reached the limit of their ability to articulate their understanding of complexity in the formal languages which they cultivate. It is tempting to foresee a time when higher orders of complexity can only be understood through the insightful representations of the arts. For many participants that time may have already arrived. Formal abstractions have come to be equated with aridity. The much sought integration may need to be fired by experiential and aesthetic qualities.

Just as the scientific disciplines must recognize their limitations in a transdisciplinary framework, so it is with the artistic disciplines. Transfiguration is no trivial matter if it is to succeed. How can such disciplines bring to bear their aesthetic power to reframe and reconfigure that of which others are aware? Of what idiosyncrasies must they themselves be aware — and leave behind in this endeavour?

The Arrabida Monastery, and its natural environment, certainly set a high standard of aesthetics. How can higher orders of beauty be given form in the light of transdisciplinary perspectives? There were those who addressed this issue and related this quest to those of more scientific inclination. For scientists do claim sensitivity to the beauties of the natural order, even though these have no place in their language of formal abstraction.

### Symmetry

A key thread in linking formal abstraction to aesthetic sensitivity was explored through notions of symmetry. As in many instances, the event was privileged to have one of the

world's few specialists on this topic. The search for keystones may even be defined in terms of the search for new forms of symmetry capable of holding the relationship between new forms of seeming incommensurability.

Each form of symmetry can be said to imply the presence of a higher form of order. The nature of that order can often only be surmised through a pattern of symmetry — as a two dimensional projection of what escapes the comprehension. The challenge is even greater when the symmetry lies in the dynamics between intangible qualities or principles. This is especially so when their apparent incompatibility can only be understood, if at all, as of a "complementary" nature — with all the paradoxical challenges this may imply.

It was for such reasons that symbolists of various persuasions were attracted to the event. For it is symbols that have been traditionally used to embody subtle qualities and it is through the symmetry of symbols that higher orders of understanding are suggested. It is however one thing to imply the possibility of such understanding and another to manifest it in practice — especially at a congress with others endowed with related or competing skills. But did some of these differences, like those between the tones of specially tuned Tibetan temple bells, serve to create the kind of interference patterns through which higher harmonics could be engendered and heard? This calls for meeting skills of an unusually high order. The local organizer of the event, a well-known artist, had recently completed a book on five-fold symmetry. But, curiously, and unrecognized by the organizers, the event was held in a hall lit in such a way that the interference pattern between certain fixed lights created a striking heptagram on the main wall — an unusual pattern under any circumstances.

### Design constraints

The organizers, and the Kapellmeister, were clearly faced with a daunting challenge. This was aggravated by the requirements of the various sponsors.

As with any work of art, or any piece of research, there are outside influences that structure the enterprise in ways that may appear less than fruitful. It is a truism that the more that a project is international, intercultural or interdisciplinary, the lower the probability of institutional support. This is hardly surprising when sponsoring and funding agencies are themselves organized to reflect the high degree of fragmentation of contemporary society — and pride themselves for their practical realism and social relevance in doing so.

Sponsors fear any form of innovation but require that projects appear innovative. This is a traditional dilemma for innovators. Transformative processes must be disguised as exercises in the reinforcement of the status quo. But in the case of this event the external pressures were even more severe. In order to be eligible for funding, an open discussion-oriented congress had to be presented as a closed, traditionally-ordered sequence of presentations — minimizing the amount of discussion. But the final institutional "sting" was that promised funding was then decimated just prior to the event — effectively preventing any interpretation between French and English-speaking participants.

Even under such circumstances there is a need to maintain acceptable links to the institutional world. The wise may even

allow traditional protocol to rule in potentially transformative environments — giving to Caesar, what is Caesar's. The wisdom of allowing Caesar to claim full responsibility for creativity and innovation has long been recognized — even when he fails to recognize the limitations of his understanding of it.

### Participant impotence

In a transformative environment it is to be expected that transformative insights would co-exist with a total lack of transformation. Optimistically these extremes may be seen as necessary complements to each other, with the one providing stability to give birth to the other.

The event did however provide some striking lessons in collective impotence and paralysis.

What lessons are to be learnt from participants waiting impatiently outside the conference hall, inadvertently locked, when there is an open window via which the door may be opened? And what is to be learnt from highly intelligent participants observing, without reaction, as the bus they are in drives kilometres past the sole turn off to their conference site? The latter incident may of course be reframed in terms of offering new experience — but there are limits to such intellectual gymnastics.

But what is to be said of a conference that emerged as highly structured despite declared intentions to the contrary? How is it that participants can accept their individual and collective impotence so readily? With even the "complainers" acting discreetly and non-disruptively in the articulation of their complaints. Participants even failed to move to reconfigure the seats in a circle — which would have facilitated any dialogue. Is this the route to transdisciplinary transformation? There is an instructive story about four able-bodied participants in such a meeting:

There was an opportunity for a real transformative change initiative. Everybody was sure that Somebody would take the opportunity. Anybody could have done so. But Nobody did. Somebody got angry about that, because it was Everybody's responsibility. Everybody thought Anybody could do it, but Nobody realized that Everybody was failing to do so. It ended up that Everybody blamed Somebody when Nobody did what Anybody could have done!

In this way the congress modelled the fundamental challenge of contemporary society. The best and the brightest indulge in the structures and dynamics of the past — since they continue to be well-nourished by them. At the same time they are aware of the need for new forms, and may even discuss and enthuse about them at great length. But the silken cords binding to the past are very strong: avoidance of rudeness, respecting the eminent, acknowledging support, need to avoid jeopardizing valued friendships, cultivating possible future relationships (and funding), reliance on the "tired and true", etc.

### Participant impotence: Mea culpa

Blame and scapegoating others obscures the need to understand individual responsibility.

Such impotence is most frustrating when it is conscious:

(a) As an opening speaker, what “spell” prevented me from restructuring my presentation to involve the participation of others in dialogue? Having advised the organizers on such specific challenges prior to the event (Reflections on the organization of transdisciplinary conferences, Transnational Associations, 1994, 5, pp 292-301), what exactly prevented me from switching to an emphasis on dialogue — especially since I had already distributed a prepared paper to all? Agreed there is always a case for using a presentation to establish one’s own legitimacy and the coherence of any transdisciplinary enterprise. Caesar needs to be reassured, even when he has withdrawn much of his financial support. Opening speakers are expected to offer coherence. But perhaps the error is to be caught up in this role rather than bridging to the urgent need for self-organizing dialogue as a contemporary challenge to both content and process in meetings which claim to be innovative.

(b) As a participant, what “spell” prevented me from vigorously protesting certain “abuses” and styles of presentation? Why did I not plead for dialogue in a more open meeting? Is there no limit to tolerance? But then again, I had already said my piece. With what justification could I challenge the rights of others? But why not simply voice that dilemma? There were many others holding that view.

By buying into a traditional communication pattern, this was effectively reinforced for a whole chain of speakers. And for each speaker it became more difficult to break the pattern and give up the opportunity to say one’s piece — even though this precluded any dialogue.

Traditional speeches from the podium are a comforting ritual — a contemporary form of chant.

Other forms of communication involve a much higher order of risk. Failure to take such risk prevents participants from bringing their collective insights to bear on the issues of how to redesign or co-create their communication environment in the spirit of those insights which purportedly unite them. Are there other ways of approaching such participant impotence? At an event in which there was much stress on duality and its transcendence — with an emergent third — there might have been a case for calling upon the insights of the psychoanalysts present, especially those of Freudian orientation. Could such impotence be seen in terms of psychosexual metaphors? Whether a question of impotence or frigidity in the face of transformation, it suggests some deep-seated fear of conceptual “consummation” through which the excluded third takes form.

Faced with duality, the transdisciplinary participant is effectively unable to act. As elsewhere, such impotence can only be discussed with the greatest discretion. It must be disguised and reference to it must be avoided in polite society — despite its obvious implications for the political impotence currently evident within the international community. This would suggest that there is a need to completely reframe the way in which conference participants approach such duality. As in contemporary society, the pattern of contextual stress is recognized as a severe inhibitor of healthy response. But

should this suggest a search for psychic aphrodisiacs to facilitate the necessary response to duality?

### Participant discipline

If a choir is a useful metaphor, it highlights the need for the individual discipline of the participants. It is one thing for meeting participants to claim to practice a discipline, but it is another for them to act in a disciplined manner within a meeting. The issue of participant discipline is seldom raised explicitly — except in the stressful irritation of session chairpersons endeavouring to ensure respect for a much abused meeting schedule.

The art of “terminating” an inappropriate presentation remains elusive under the best of circumstances. There are always participants who overrun their time, depriving others of similar opportunities. To do so, some shamefully abuse their status as world authorities, honoured guests or sponsors — and are allowed to do so, despite considerable irritation. Some launch into lengthy anecdotes from their life story, abusing real appreciation for their achievements. Some see their presentation as an opportunity for personal dramatization — so drama too was well-represented at Arrabida! This may take the form of personal testimony — converting the gathering into a testimony meeting in which applause is required as necessary affirmation. Some abuse a gathering as a marketing or self-promotional opportunity before a trapped audience.

At a gathering in which many have a theoretical interest in self-organization processes, what prevents them from acting in such a way as to augment the self-organization of the event itself? Why the dependence on father figures to ensure good behaviour on the basis of dubious criteria? Is it a proven fact that mature participants are unable to exhibit the personal discipline to order their behaviour without such intervention? Perhaps attention should be focused on the contrasts between a typical Western “organized” choir and the self-organizing variety characteristic of some African cultures, for example. At what point does the discipline of Kapellmeister become absorbed into the personal discipline of every participant?

Ironically the challenge of participant impotence in the face of such abuses may be taken as an excess of participant discipline — but of an antiquated kind. The challenge is that participants misbehave when given the freedom to do so as presenters, but they behave like chastened children, denying all responsibility, when relegated to the function of listeners. There is a need for a new participant discipline for those seeking to function in transdisciplinary gatherings. A Charter of Transdisciplinary Meeting Participants might be a useful beginning (cf Pattern of Meeting Participant Roles; the shadowy roundtable hidden within every meeting, Brussels, UIA, 1993). As in the case of a singer, it would highlight the way in which a participant could most useful contribute to a collective song. It would clarify entry cues and the moments when a particular voice should cease. It would articulate the function of counter-point and the disciplines of multi-part song. Different styles of singing would be contrasted (to avoid vain attempts to combine the equivalent of Georgian chant and hard rock!). It would clarify, despite the best of

intentions, how each participant brings both key insights and unfortunate ways of undermining the quality of the collective song.

At Arrabida some participants called for a new attitude on the part of participants. Such events should allow for skilful confrontation of perspectives without suppressing fruitful disagreement. In music terms such elements make for more harmonies of a higher order because of the ways in which apparent disagreement must be held in order to be effectively integrated. The best of perspectives call for challenge in order to evoke responses of a higher order.

### Purpose: a new route to the “Indies”?

What might have been the purpose of the congress? What quality was being optimized? Or were there a multiplicity of mutually indifferent agendas?

At best a self-organizing event could be understood to be refining and reframing a purpose through its own processes. This would of course be anathema to any conventional sponsor and to many participants. Intentions are expected to pre-date any serious project.

Spontaneous discovery is to be kept to a minimum. Meetings are expected to produce pre-defined products. It is no wonder that meetings come up with very little that is new — they are designed that way. Meetings are not intended to focus on the transformative quality of the moment — which may be why they do seldom give rise to anything of moment!

There was of course the undercurrent of shared concern that disciplines have failed to respond to the social challenge of the emerging social crisis. And in many ways their arrogance and complacency have served to exacerbate contemporary problems and the conceptual gridlock in responding to them. A gathering of the disciplines at the place where Columbus meditated on the possibility of circumnavigating the globe does have a quality of appropriateness. There is great need to see the world functionally in the round. But for those sensitive to historical symbolism, there was a high degree of irony in the interpretation by Columbus of what he subsequently “discovered”. He thought he had found a new route to the Indies. He had in fact “discovered” a new continent. But it was only new from his cultural perspective — since it was already inhabited by other civilizations.

What surprises are in store for the transdisciplinary enterprise? What might it be expected to discover in this way?

### Meeting enfoldment

Given the quality of those assembled at the monastery, it was to be expected that patterns of insight would be articulated in such a way as to resonate with one another.

Complementarities were brought to light. Conceptual relationships and other bonds were affirmed. The harmonies and discords relating particular perspectives were carefully cultivated and contextualized, notably in relation to the rhythm of the meeting. Paradoxes were suitably held and configured. The arduous sequence of presentations could be seen as the carrier wave for such construction — both occupying those susceptible to distraction as well as focusing the intentions of the gathering. The conceptual scaffolding became progressively more transparent.

The metaphor of an antenna is useful in this context. A suitable array of concept detectors can be used to capture insights which are difficult to resolve under other circumstances. Whether the antenna could have been better designed is another matter — a circular array instead of a linear one? And towards what was the array oriented?

But what was done with the insights captured in this way? It cannot be said that they were processed in any ordinary way — although those looking for a conventional product will find one. Rather they were somehow fed back onto the meeting processes so that the content became the process. The gathering became producer and produced — it became what might be called a meta-object or a meta-subject. There emerged a form of self-reflexiveness that was imbued with the aesthetic and spiritual qualities of the monastery and its environment.

Perhaps it was no accident that the monastery is nestled into the slopes of a sacred mountain on which one of Portugal’s most famous mystic poets had lived as a hermit. Beauty can function as the subtlest of contextual frameworks.

Can a meeting be said to enfold itself, gathering and configuring its elements into a higher dimensional construct? Is this construct to be considered subject or object? Or, as emphasized in a number of presentations, both-subject-and-object? Or again, in the light of Eastern logics, might it also be neither-subject-nor-object? How may such a construct be said to act, if action is how it should be understood?

Are the fragmented frameworks of individual participant experience to be considered a necessary counter-balance to such meeting enfoldment? For clearly there is never any lack of participants who experience a gathering as a jumble of relative meaningless contributions.

How then do participants work together to evoke such enfoldment? And in what way does it touch them thereafter?

### Embodiment of insight

What was really going on at the monastery? Was it an effort to give form to Hermann Hesse’s *Glass Bead Game* in which the skills of the sciences are so intimately entwined with those of the arts? As representative “singers” of the disciplines, what were participants striving to achieve through their responses to one another?

Can the quality of the endeavour be more appropriately evoked by the following description by philosopher Antonio de Nicolas (1978) of the four complementary conceptual languages of the Rg Veda that are considered necessary to hold the complexity of insights and experience:

“Therefore, from a linguistic and cultural perspective, we have to be aware that we are dealing with a language where tonal and arithmetical relations establish the epistemological invariances....Language grounded in music is grounded thereby on context dependency; any tone can have any possible relationship to other tones, and the shift from one tone to another, which alone makes melody possible, is a shift in perspective which the singer himself embodies. Any perspective (tone) must be ‘sacrificed’ for a new one to come into being; continuity, and the ‘world’ is the creation of the singer, who shares its dimensions with the song.”

*In ancient times, the infinite possibilities of the number field were considered isomorphic with the infinite possibilities of tone...Rg Veda man, like his Greek counterparts, knew himself to be the organizer of the scale, and he cherished the multitude of possibilities open to him too much to freeze himself into one dogmatic posture. His language keeps alive that 'openness' to alternatives, yet it avoids entrapment in anarchy. It also resolves the fixity of theory by setting the body of man historically moving through the freedom of musical spaces, viewpoint transpositions, reciprocities, pluralism, and finally, an absolutely radical sacrifice of all theory as a fixed invariant." (Antonio de Nicolas, *Meditations through the Rg Veda*. Boulder, Shambhala, 1978, p. 57)*

### **What next?**

The proceedings of the event will be published by the International University of Lisbon and will presumably include a list of participants. The views of the most authoritative French-speaking transdisciplinarians have been recorded in filmed interviews. A Charter of Transdisciplinarity was drafted, debated and signed by some. Whether it could have had a more self-reflexive evolving structure, consistent with its content and objective, is a matter for the future.

The main lesson of the first congress seems to be the need for a new form of participant discipline responsive to the transformative moment (rather than to the untransformative constraints of sponsors and programmes prepared in advance). Perhaps this implies a new form of structured dialogue, as implied by Stafford Beer's (*Beyond Dispute; synergy team design*. New York, Wiley, 1994) most recent experiments. Perhaps the facilities of Internet will be the key to the required breakthroughs in conceptual scaffolding. Given the presence of the arts, perhaps the transdisciplinary reality is in some way essentially plastic. The success of such an event lies in the ability of individual participants to mould its earthy reality into a form that embodies a higher order of coherence. It is the ability of participants to act out of such coherence which is the key to the future of transdisciplinary events—irrespective of whatever is collectively articulated. What of the next congress (scheduled for 1996 in France)? Could there be any improvement on Arrabida? A small group of complainants, including this writer, drafted some mild suggestions. These were not discussed, but instead I was appointed to focus any such recommendations for the next event, if it is ever to be held. Any practical insights on how to square the circle in such a congress...?

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### **IFLA Section on Classification and Indexing**

The Section Newsletter No.14 informs first of all on the forthcoming **IFLA Conference at Istanbul**. During the Open Forum of the Division of Bibliographic Control, Aug.21, 1995, Donna DUNCAN, Chairperson of the Section, will present a review of the Section's activities for the year 1994 and report on the State of the Art Survey of Subject Heading

Systems. Three papers will be presented at the Section's Open Programme: Poori SOLTANI, National Library of Iran, will speak on "Translations and expansions of the DDC and the LC Classifications in Iran and the Arab countries". Maria Ines LOPES, Instituto da Biblioteca Nacional e do Livro, Lisbon, will speak on "Principles underlying subject heading languages: An international approach", and Gülbütün BAYDUR, Department of Library Science, Hacettepe University, Ankara, will speak on "Subject indexing practice in Turkey".

At the **Havana Conference** of IFLA in 1994, the Section's Standing Committee held two meetings. The Section's programme, attended by some 70 people, included three papers: Gerhard J.A. RIESTHUIS, University of Amsterdam, spoke on the sociological aspects of classification. P. Benedito CASTELLOTE, National Library of Spain, presented a paper on constructing a thesaurus and on the automatic indexing of photographs in the National Library of Brazil, and Yolanda ARENCIBIA, Association of Cuban Librarians, spoke on classification and indexing in Cuba. At the Open Forum, Donna DUNCAN reported briefly on the Section's activities during 1993.

The **Working Group on Principles underlying Subject Heading Languages**, chaired by Maria Ines LOPES, met twice during the Havana conference and reviewed background definitions, underlying principles of subject heading languages and illustrative principles from Canadian, German, Iranian, Portuguese, and American systems. The Group decided to expand the document and requested illustrations from Brazil, Croatia, France, the Netherlands, Norway, Poland, Russia, Spain, the UK, and the MeSH subject heading system. As of May 1995, documentation had been received from France, Norway, Poland, Spain, the UK and information about MeSH. A revised document will be reviewed at two meetings during the Istanbul conference. It is hoped that a final document will be available for worldwide review by the end of 1995.

The Section on "**Information Technology and Classification and Indexing Joint Working Group on a Classification Format**" chaired by Joan S. MITCHELL, continues its work. The Group received comments on the draft document distributed last year from both Standing Committees and the Permanent UNIMARC Committee. At its first formal meeting in Istanbul, the Joint Working Group will review a draft document to ensure that all format requirements have been addressed and the data elements in the current USMARC format have been accommodated. It will also discuss what content designation should be used to accommodate new and/or changed items and make preliminary recommendations on documentation and publication of the format. Julianne BEALL, Library of Congress, P. B. CASTELLOTE, and Nancy WILLIAMSON, University of Toronto, represent the Section on the Working Group.

The **State of the Art Survey of Subject Heading Systems** is intended to be conducted in two phases. The first phase is to ascertain which countries provide subject access to bibliographic records using alphabetic subject headings. The second will be a comparative study to determine the commonalities and differences among subject headings used

for national level cataloguing. A questionnaire has been distributed to national libraries to discover: (1) if they in fact provide such access, (2) for how long they have provided such access, (3) what subject access systems they use and (4) whether manuals exist for them.

As a result of elections, the **membership of the Standing Committee** has been reduced to 16 members with representation from 13 countries. Continuing members are: J.Beall (USA), D.Duncan (Canada), C.Freschard (France), F.Geißelmann (Germany), M.Heiner-Freiling (Germany), E.Hjortsæter (Norway), J.Lankage (Sri Lanka), M.I.Lopes (Portugal), A.Normak(Estonia), G.J.A.Riesthuis(The Netherlands), and P.Soltani (Iran). The four corresponding members are S.Artamonova (Russia), A.M.Monteiro Bettencourt (Brazil), M.Mikacic (Croatia), and K.S.Raghavan (India). I.C.McIlwaine is the observer for FID. Welcome to new members: E.Grignani (Italy), A.I.Kiraly (Romania), I.C.McIlwaine(U.K.), E.Swanson(USA)andM.-M.Tomitch (France).

Furthermore the Newsletter reports on developments in the field in 15 countries.

For further information please contact the chairperson: Ms.Donna Duncan, Technical Services, McLennan Library, McGill University, 3459 McTavish street, Montréal, Québec, H3A 1Y1, Canada, Tel. (514)398-4773, Fax: (514)398-8919, Email: DUNCAN@LIB1.LAN.MCGILL.CA

### **U.K. CRG 300**

This 300th meeting of the Classification Research Group was held at University College London on Febr.24, 1995 with seven persons present. The topic of this special meeting was Classification and the Internet. Mr. NEILSON presented a discussion paper. He noticed that the current forms of network resource discovery are unlikely to be sustainable as the network continues to grow. One response has been to try to use tools developed in libraries to support the organization of knowledge. The NISS information system (<http://www.niss.ac.uk>) uses UDC to provide a browsing menu. The CERN based virtual library (<http://info.cem.ch/hypertext/DataSources/bySubject/Overview.html>) claims to be based on the Library of Congress Classification. Some libraries have themselves developed guides to information resources on the Internet (e.g. the Bodleian Library World-Wide Web Server). He suggested that a demonstration of the use of classification is needed which makes full use of all the devices available and that the CRG should spend some time examining the application of classification techniques to network resource discovery.

The next meeting was to be on April 28th with a continuation of the Internet discussion.

### **Work of ISO TC 37: Terminology**

The Secretariat of ISO/TC 37/SC1 GOST R/VNIKI, Moscow has circulated recently for voting the Draft International Standard ISO CD 704.2: *Terminology Work - Principles and Methods*. The standard covers the following sections: Concepts and Concept relations. Concept Systems (Development, representation and types of concept systems). Writing definitions (Types of definitions, Requirements for develop-

ing definitions, Deficient definitions). Designations (Terms, symbols), Figures (Types and use of figures). Convener of this Standard is Dr.Sue Ellen Wright, Institute for Applied Linguistics, Dept.of Modern and Classical Language Studies, Kent State University, Kent, OH, 44242-0001, USA. The ISO/TC 37/SC2 Secretariat at the Terminology and Documentation Directorate in Hull, Québec, Canada is circulating at present for voting a new work item proposal on *Guidelines for Terminology Standardization Project Management*. Its purpose is to provide standardizers with a tool to guide them in the organization of their terminology work and to evaluate the extent to which standardized terminologies meet the criteria outlined in ISO/TC 37 standards and in the IEC/ISO Directives. The Guidelines will promote the use of uniform terminology work methods among the various groups developing standardized terminologies and ensure that terminology is used consistently throughout a single standard, a series of standards and within a technical committee. The Draft Working Document No.154 comprises 11 pages. For further information contact Ms. Diane Michaud, Secretary ISO/TC 37/SC2, Public Works and Government Services Canada. Translation Services. 15 Eddy Street, Hull, Québec, K1A 0S5, Canada.

### **Text Analysis and Computers**

The SCCAC (Society for Conceptual and Content Analysis by Computer) will hold its next conference jointly with ZUMA at Mannheim, Germany, Sept.18-21, 1995 on the above topic. A preliminary program was published in the SCCAC Newsletter No.7. The following papers will be presented:

Peter P.MOHLER: Text and computers - past, present, and some future. - Erhard MERGENTHALER: Computer-assisted content analysis: an overview. - Jane TOROUS: Trend analysis using computerized text analysis: A case study of transportation news. - H.-A.HEINRICH: A dictionary of typical German features. - Galina SAGANENKO, Eugeny KANEVSKY: Dynamics of changes in Russia: Investigation with open questions and content-analysis (Longitudinal from 1989). - Christian MAIR: Machine-readable corpora and the linguistic description of languages. - Nina DEVONS: A lexical study as dictionary adjunct. - Klaus M.SCHMIDT: Search strategies with the online conceptual database for medieval German literature. - Udo KELLE: Computer-aided qualitative data analysis: an overview. - Jacqueline HAYNES, Gary RESNICK: An intelligent multimedia approach to automating qualitative data collection and coding. - Seppo ROPONEN: Writing in computer-assisted qualitative data analysis. - Jörg STRÜBING: Computer-assisted analysis in qualitative social research. - Marcus SPIES: Speech recognition and corpus analysis. - William EVANS: Computer environments and expert systems for content analysis. - Ephraim NISSAN: HyperJoseph: The hypertextual organization. - Werner DEGENHARDT: Transforming linear text to hypertext. - Jürgen KRAUSE: Information processing and texts. - Antonio LAMARRA, Ada RUSSO: Multilingual text analysis: Contrastive concordance between Leibniz's Monadologie and its translations. - Jawad BERRI, Dominique LEROUX, Denis MALRIEU, Jean-Luc MINE: SERAPHIN:

A system for the automatic extraction of main sentences. - Dusko VITAS, Cvetana KRSTEV, Gordana PAVLOVIC-LAZETIC: Dictionary layers underlying electronic texts. - Anthony GIFFARD: Global issues and the new geopolitics of information. - June W.RHEE: Framing effects of strategy-oriented new coverage on public understanding: semantic network analyses of narrative data. - Natalia GLUKHOVA: Computer-assisted rhythm analysis of Mari Pagan Prayers. - Paul A. FORTIER: Prototype effects vs. rarity effect in literary style. - Joseph PORAC, James B. WADE, Tim POLLOCK: Electronically coding corporate justifications for top management compensation using the method of successive filtrations. - Phyllis KUEHN: Using content analysis in support of test construction and validation. - René MOELKER: Management of big data files. Disaster or blessing? - Donald G. McTAVISH, Kenneth LITKOWSKI: A computer content analysis approach in measuring social distance in residential organizations for older people. - Roel POPPING: Network approaches to the analysis of text. - Ira MONARCH, Suresh KONDA, Dave GLUCH, Marvin CARR: Supporting content analysis of software development data gathered by multiple teams at multiple sites. - Robert HOGENRAAD, Dean MCKENZIE, Colin MARTINDALE: The enemy within: Auto-correlation bias in content analysis and in historiometry and scientometry. - Boris KABANOFF: Do the words in annual reports tell us anything about organisations' performance? - Renata FOX: Defining key words and concepts through computational text analysis.

There will also be software demonstrations (e.g. CAIR by E.KANEVSKY, St.Petersburg, Russia; Max.txt by Udo KUKARTZ, Berlin, Germany; Hypermedia System by Kirill BOYARSKY et al from St.Petersburg, Russia; Hypertext by Angelika GLÖCKNER-Rist from Mannheim, Germany; INTEXT by Harald KLEIN from Jena, Germany, MHDBDB by Klaus SCHMIDT from Bowling Green State University, USA; and TACT by Janet HARKNESS and Cornelia ZÜLL from Mannheim, Germany. Exhibitions are foreseen from GESIS (German Social Science Infrastructure Services) and IEC Progammma (The Netherlands).

For further information contact: Jolanta Muellner, ZUMA, POB 122155, D-68072 Mannheim. Tel.: +49-621-1246 174. Fax +49-621-1246-100. Email: cta@ZUMA-Mannheim.de Gopher: goher.social-science-gesis.de

## Forthcoming Events

### Advanced Terminology Management

This is the title of the 12th Terminology Summer School to be held from August 14-18, 1995 in Vienna, Austria. Trainers are Dr. Sue Ellen Wright from Kent State University, USA and Dr. Gerhard Budin from Infoterm. The organizer is TermNet. Further information and the programme can be requested from TermNet at Grünasse 9/17, A-1050 Vienna, Tel. +43-1-586-7763, Fax: +43-1-586-7764.

### KnowRight'95

An International Congress on Intellectual Property Rights for Specialized Information, Knowledge and New Tech-

nologies will take place in Vienna from August 21-25, 1995. It is organized by the Austrian Computer Society, the Austrian National Commission for UNESCO, the Vienna University of Technology and TermNet, cosponsors are IFIP, CEPIS, UNIDO, ISO, and FID. For further information contact: Dr. W. Grafendorfer, Austrian Computer Society, Wollzeile 1-3, A-1010 Wien.

### Multilingualism in Specialist Communication

From Aug. 29-Sept. 2, 1995 the 10th European LSP-Symposium will be held in Vienna. It is organized by the University of Vienna, the AILA Commission on LSP, VERBAL, and Infoterm. Some 7 sections and workshops have been planned as well as an exhibition. The Venue is at the University of Vienna, Institute for Translation Studies, Gymnasiumstr. 50, A-1190 Vienna. To register write to Dr. Gerhard Budin, Infoterm, Heinestr. 38, A-1020 Vienna, Fax: +43-1-216 32 72.

### LCSH: the Future for Subject Access?

This question was put by the British Library Association's Cataloguing and Indexing Group, to be answered on Sept. 6, 1995 at 14:00 at the University of Hertfordshire, Hatfield. Speakers will be Andrew MacEwan, British Library, and Dr. Ann Matheson, National Library of Scotland. Registrations should be sent to Ms. Jane Savidge, 7 Orchard Road, Hampton, Middlesex, TW12 2JJ, UK.

### Compatibility and Integration of Order Systems

More on this topic of ISKO's Regional Meeting in Warsaw and Research Seminar from 13-15 Sept. 1995 was published in ISKO News 19. Under this issue's ISKO News 20 a preliminary list of papers is included as well as the address for any further information.

### Worldwide Flow of Knowledge through Terminology

This is the topic of the 4th Congress of IOUTN and the 1st Symposium of IFTB from 22-25 September 1995 in Warsaw. IOUTN stands for International Organization for Unification of Terminological Neologisms and IFTB for International Federation of Terminology Banks. For further information contact Prof. Z. Stoberski, ul. Szturmowa 4, PL-02-678 Warszawa. Tel.: +48-22-43 55 73.

### The 5th Summer School 'Traitement des Langues Naturelles'

will take place in Trégastel, France, Sept. 25-29, 1995. It is organized by the CNET (Centre National d'Etudes des Telecommunications) with the support from LADL-CERIL (Lab. d'Automatique Documentaire et Linguistique, Centre d'Etudes et de Recherches en Informatique et Linguistique) and from APAST (Assoc. pour l'Animation Scientifique du Trégor). Organisation: M. Nguyen, CNET-LAA/EIA, 2 ave. Pierre Marzin, F-22307 Lannion CEDEX, Tel. +33-96-053177.

### Zukunft durch Informationen - Future through Information

Media, Networks, Information-Engineering.

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