

# **Uncertainty and self-development**

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The main hypothesis of this seminar is that the development of a person, in particular within organizations, is not related to the elimination of uncertainty but rather to the 'awareness and transformation' of it.

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# Uncertainty Theories revision

# Initial Assumptions

(Life is an adventure! F. Heylighen)

- The end of certainty
  - Heisenberg uncertainty principle, the theorem of Gödel, the existence of deterministic chaos, the halting problem, the finiteness of the speed of light...
- Uncertain nature of an agent
  - The environment of an agent is normally complex, dynamic and to some degree unpredictable. This means that the agent will sooner or later be confronted with a problem, i.e. a deviation from its goal that it had not foreseen.

# Uncertainty Reduction

(Berger, Calabrese & Bradac)

- Central assumption: humans strive to reduce uncertainty
- Uncertainty is a cognitive conflict or tension, an uncomfortable state
- Uncertainty is a product of computation both on existing knowledge and new bits of information
- Reduction of uncertainty = information seeking

# Uncertainty Reduction (Berger, Calabrese & Bradac)

- Limited uncertainty can be positive in relationships (Baxter & Montgomery)
- *Uncertainty intensification hypothesis*, whereby uncertainty makes unpleasant events more unpleasant but also makes pleasant events more pleasant (Silvia)

**Not all uncertainty need to be reduced**

# Uncertainty Reduction (Berger, Calabrese & Bradac)

- If it is 'information based', two individuals with identical information should experience the same uncertainty (!?)
- Information can actually increase uncertainty rather than reduce it when information is unexpected (Planalp & Honeycutt)

**Uncertainty is a subjective experience based on perceived information**

**Not all information seeking strategy leads to reducing information**



# Some observations

- Agent does not act to reduce uncertainty. The behavioral driver is not to reduce uncertainty
- The agent acts to achieve its goals
- Reduction of uncertainty is a consequence of acting, action is not necessarily a consequence of reducing uncertainty

# Problematic Integration Theory

(Babrow)

- Individuals assess probabilities of an event and make an evaluation of the more or less probable possibility
- Uncertainty happens as a problematic relationship between probability and evaluation.
  - Probability and evaluation can diverge
  - Probability can be ambiguous
  - Evaluations can conflict, two positives or two negatives
  - An outcome may be impossible, divergence between expectations and desires

# Problematic Integration Theory

(Babrow)

- Uncertainty is a cognitive conflict or tension, an uncomfortable state. So the driver remains uncertainty reduction

**Not all uncertainty need to be reduced**

# Problematic Integration Theory

(Babrow)

Some steps forward

- It assumes that the individual evaluation of the event may lead to a different experience of uncertainty.
- Unlike in the Uncertainty Reduction Theory, emotions are no isolated from probability

# Some observations

Better,

- Certainty (unavoidable outcome) also leads to uncertainty if there is a problematic integration with the desires of the individual

but still...

- How can we integrate the positive experience of uncertainty?
- Calculation of probabilities ? Actually we decide on 'gut feelings' (Gigerenzer)

# Uncertainty Management Theory

(Babrow, Brahsers)

- People can experience uncertainty variously, not simply as an uncomfortable tension demanding reduction
- Uncertainty  $\pm$  uncertainty-reducing behavior
- Uncertainty sometimes large, bad to be reduced and at other times a small thing to be nurtured
- Individuals may use uncertainty as a resource or tool
- There is an optimal level of uncertainty

# Some observation

- Good progress!! However...
  - If uncertainty can be perceived as positive, what is the difference between experiencing negative and positive experience?
  - I agree that there is an element of inevitability about uncertainty, but, is there an optimal level of uncertainty? Positive or negative? How do we define large or small? Is there an optimal for each individual in each situation? Do we act to reach optimal levels of uncertainty?
  - We don't act based on computing all possibilities

# Uncertainty/Anxiety Management Theory

(Gudykunst and Hammer)

- Strangers experience two types of uncertainty: prediction and explanation.
- Strangers do not only experience uncertainty, they also experience anxiety; usually based on negative expectations
- When anxiety is too high they cannot predict the other's behavior.
- When anxiety is too low, strangers are not motivated to communicate with hosts.
- Being mindful of the uncertainty and anxiety is necessary and enough to communicate with others



# Some observations

- Increasing awareness of uncertainty/anxiety is enough  
- Agree!

It not a search for optimal because relating is a very complex and dynamic process

- Behavior is defined by anxiety; what's the role of uncertainty? (information seeking?)
- I agree that there are two dimensions of uncertainty informational and emotional
- But I don't think that the only possible experiences of uncertainty are; uncertainty and anxiety (still, what's the experience of uncertainty?)

# Definition of Uncertainty

# What we need to consider about uncertainty?

- People do not experience uncertainty in every event or encounter
- Individuals have different levels of tolerance of uncertainty
- Increasing information does not necessary lead to decrease of uncertainty
- Uncertainty does not necessarily be experienced as negative
- Uncertainty is not a purely computation exercise
- Individual needs to experience uncertainty to consciously explore new alternatives

# Definition of Uncertainty

Uncertainty is the cognitive act of being aware of the unpredictability of an event or encounter that impacts the consecution of the agent's goals, both short and long term.

- Perceived lack of information
- Valued to the agent/individual
- Neither positive nor negative

# Components of Uncertainty

- Informational component: the perceived lack of information
- Emotional Appraisal Component: if affect my goals, my fitness. I don't set up consciously goals that I don't perceive as necessary/positive

# Components of Uncertainty

- The studies also demonstrated that the psychological effects of uncertainty may have less to do with what people do not know than with what people feel (Silvia)

Perceived deficit of knowledge is a necessary for experiencing uncertainty but the emotional appraisal of that lack of knowledge is what shapes the experience of uncertainty

# Domains of Uncertainty

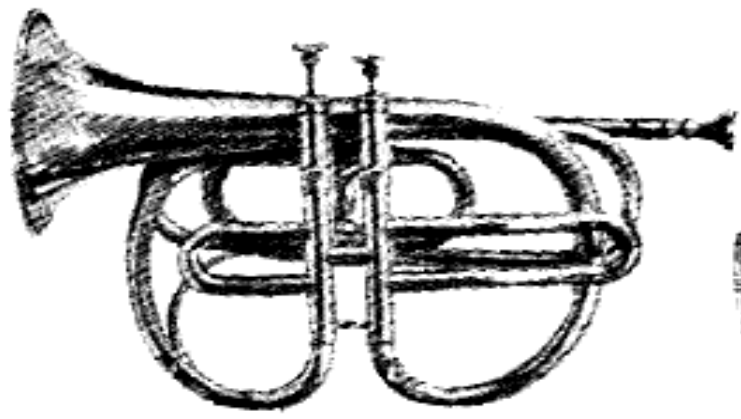
# Domains of uncertainty

- Domains of change (Varela and Maturana)
- Personal Meaning Organisation:  
Inward/outward (Nardi & Bellantuono)
- Heidegger modes of existing in the world



# Domains of Change

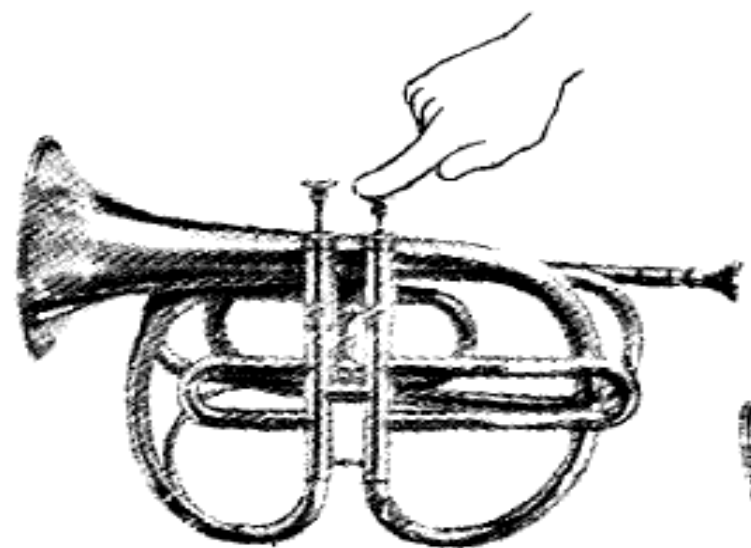
- Domain of change of state: all those structural changes that a unity can undergo without a change in its organization. Conservation of class identity
- Domain of destructive changes: all those structural changes that a unity can undergo with loss of organization and therefore loss of class identity
- Domain of perturbation: all those interactions that trigger changes of state
- Domain of destructive interactions: all those perturbations that result in a destructive change



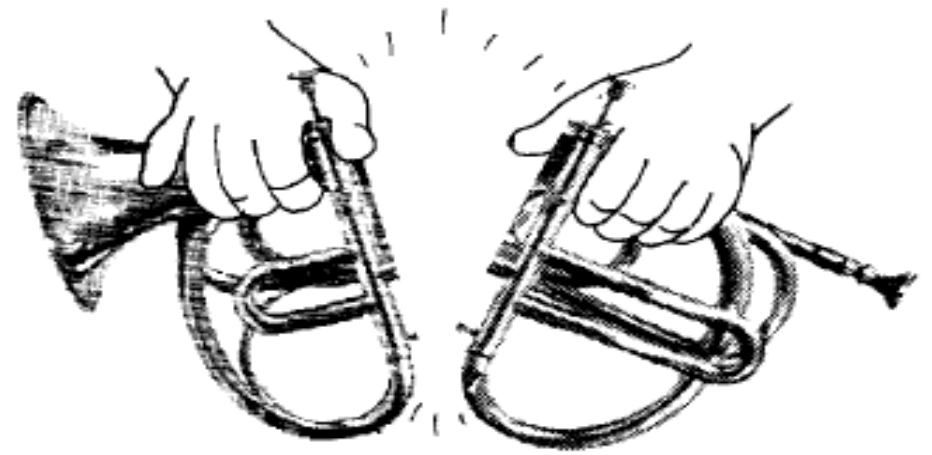
a



b



c



d

# Inward/Outward PMO

- Internal focus is more useful when the external world is perceived as stable. Changes can be easily decoded in terms of physical protection or loneliness
- Outward focus is suitable when environmental characteristics seem vague, complex or changing

# Self-perception

- **Inwards = being**

Awareness of subjectivity. Separation of self between observer and observed, thinking and thought

- **Outwards = doing/relating**

The practical recognition of self as an active and feeling agent

# Modes of Existing

- **A state of forgetfulness of being**

One lives in the world of things and immerses oneself in the everyday diversion of life. One surrenders oneself to the everyday world, to a concern about the **way things are**

- **A state of mindfulness of being**

One marvels not about the way things are but **that things are**. To exist in this mode means to be continually aware of being. One remains mindful of being, not only mindful of the fragility of being but mindful too of the responsibility of one's own being

# Domains of Uncertainty

- Relational Uncertainty

The predominant experience of uncertainty is informational about the way things are, about how to improve the problem-solving ability of an agent, not perceived as destructive changes consequences and focused externally (how the environment changes)

- Ontological Uncertainty

The predominant experience of uncertainty is emotional, perceived as a threat or potential threat and the focus is internal. Therefore Ontological Uncertainty is always experienced as anxiety.

# Domains of Uncertainty

- Both domains of uncertainty are existing in every experience of uncertainty, because both components of uncertainty are necessary
- However, the intensity and the predominance of each of them varies
- We are both inwards and outwards subjects but we have a preference for one

# How are they related?

- Identification
- Disidentification (Yalom)
- We all are in a higher or lower degree attached to our choices in life
- And because we are identified to the way we relate with the world, the way we do, uncertainty in the way we do is also experienced as uncertainty in the way we are, that is ontologically



# What makes an individual experience one or the other?

- Acting is projecting ourselves in the future

Consumption: We consume savoring or hope (dread and fear) we consume pleasant and unpleasant memories of past events, we also consume a view of ourselves that is altered for better or for worse by our actions and experiences

# What makes an individual experience one or the other?

- The way we project ourselves in the future define the experience of uncertainty: what shapes that projection of ourselves in the future?
  - **The novelty of the challenge**
  - **The perceived level of competence**

# Predominant Experiences of Uncertainty

# Ontology of Challenges

(Heylighen)

- A **challenge** is *a phenomenon that stimulates an agent to act*
- a challenge invites the agent to perform some action that demands mental and/or physical effort. It "challenges" him to change the present state into a preferable state.
- Individuals have a "**challenge-seeking**" **instinct**

# Ontology of Challenges

(Heylighen)

- **New challenges** promote new skills
- **Existing challenges** help maintain existing skills
- **Reduced challenges** lead to loss of skills

# My observations

- The behavioral driver is not the reduction of uncertainty, but an instinct to act to reach a preferable state
- Feedback may lead or not to reduction of uncertainty
- Preferable state is a process is not a state (states are always under selective pressure)
- Reduction of uncertainty is related to the successful completion of a challenge.

# Perceived levels of competence

(Heylighen)

- **Material competence**

you must have the necessary resources or opportunities to satisfy your needs

- **Cognitive competence**

you must also be able to find the resources, recognize them and apply them effectively

- **Subjective competence**

you must also believe in your own problem-solving capacity

# Predominant Experiences of Uncertainty

|                     | High Perceived Competence                        | Low Perceived Competence                   |
|---------------------|--|--|
| New Challenges      | Curiosity/Excitement                             | Anxiety<br>-Death<br>-Isolation<br>-Social |
| Existing Challenges | Certainty  | Anxiety<br>-Freedom<br>-Responsibility     |
| Reduced Challenges  | <i>Automatic Behaviour</i><br>(out of awareness) | Anxiety<br>-Boredom<br>-Meaninglessness    |



An individual should always have a unstable portfolio of challenges that include new, existing and reduced.



# Value of the different experiences of uncertainty

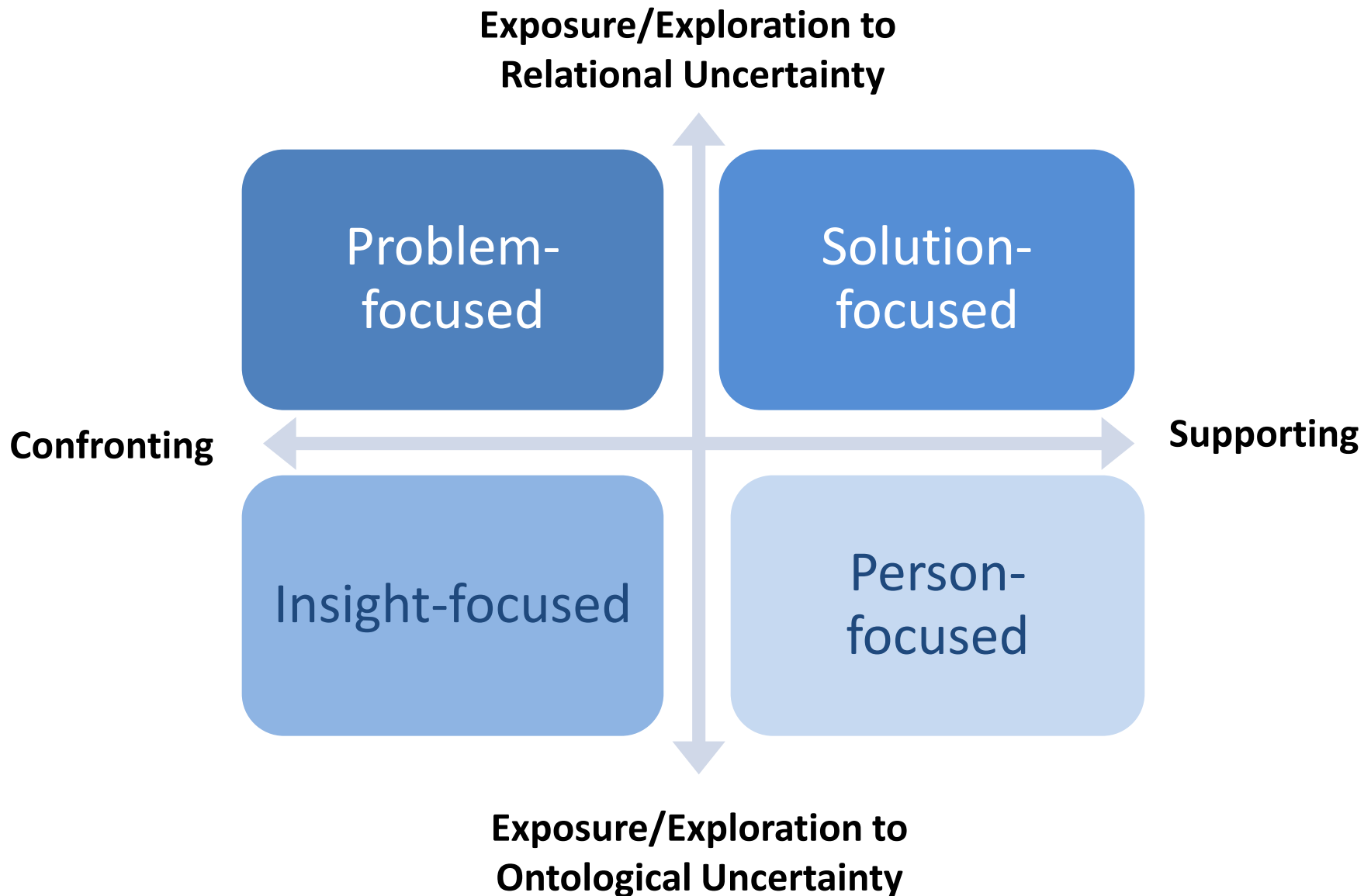
- Curiosity/excitement = exploration
- Certainty = exploitation
- *Automatic Behavior* = everyday life activity
- Anxiety = non-adequacy of the portfolio of challenges (excess or defect)

# What would be a non-functional behavior?

- Only experiencing Relational Uncertainty (complete desidentification). What we would call unconscious behavior. Either taking enormous amount of risk, not being able to question his reality (and therefore not being able to communicate with others) or permanent loss of skills.
- Only experiencing Ontological Uncertainty (complete identification). Unable to take any risk or experiencing threat in any event, unable to give value to the current existence and depression.

# The Role of Coaching

# What's the role of coaching?



# Exposure to Ontological Uncertainty

- Person-focus coaching: is based on counseling methods. In this approach the coach attempts to shift the coachee's attention inwards.

From Relational Uncertainty to Ontological Uncertainty  
(supportive)

- Insight-focused coaching: is based on the long tradition of psychodynamic coaching. The coach attempts to understand the issue from the inside (what is not said, conflicts, ambivalence...)

From Relational Uncertainty to Ontological Uncertainty  
(confronting)

# Exposure to Relational Uncertainty

- Problem-focused coaching: the coach attempts to improve the situation from the outside.

From Ontological to Relational

- Solution -focused coaching: coach and coachee look predominantly to the future and consider times when the problem does not arise.

From Certainty to Curiosity

What's next?



# What's next?

- Inwards/outwards subjects emotions (e.g. curiosity). Any research on uncertainty?
- Can we find a correlation between 'perceived level of competence' and inwards/outwards subjects
- Can we test that an individual experience both uncertainty domains regardless his/her predominant experience?
- Are the predominant experience of uncertainty contextual?

# What's next?

- What kind of coaching interventions leads to exposure of the different domains of uncertainty?
- Can we measure the impact of people coached?