THE PERCEPTION OF HUMOR

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ABSTRACT

The chapter describes the humor response; i.e., the perception that something is funny as a distinct qualia. Cognitive models of humor are presented that define the minimal conditions for humor. The relevance of detection of incongruity and its resolution, but also the limitations of this two-stage model are discussed. Techniques for the experimental variation of key ingredients of humor are presented and a major paradigm, the weight-judging task, is introduced. The ascribed role of surprise as a mediator between perceiving and enjoying incongruity is examined. It is argued that the perception of humor is highly individualistic, and the presented summary of findings based on the 3 WD humor test suggests that humor appreciation is primarily affected by personality traits that refer to the individual's general tendency to seek out or avoid stimulus uncertainty. Due to its complexity and central role in human life, the study of humor is recommended for the study of consciousness.

The perception that something is "funny" is a quite distinct quality in the flowing stream of consciousness (Dennett, 1991). Most experiences we have share the common denominator that we take the information we receive as "serious" and we prepare and carry out appropriate reactions. With a few exceptions, such as when we suspect somebody is lying, or when a news item is biased or too unlikely to be true, we do not doubt the truth value of the communication. Other than these cases we assume cooperation in the communication on the side of the sender. If the information we receive is seen to be new, we want to store it permanently for further use. The information might be important and require an immediate and appropriate response. This is different when we perceive humor: we know this is play, a play with ideas. There is no need to upgrade our knowledge system as the information we received only has an "as if"-truth, it is playing with sense and nonsense. If we are a frequent joke teller, we might be interested in adding the complete joke to our repertoire or adopt its technique, but even if a humorous message touches areas we are serious about or it matches our attitudes we want to keep it separate from what we believe to be literally true. Humor might involve content of high personal significance and its activation during serious interaction would be echoed by an orchestrated set of responses; however, as long as we take the message humorously, we are not required to perform them: we can be passively amused or reciprocate by continuing the humorous interaction.

Although the "humor response" (McGhee 1971 coined this expression denoting the perception that something is funny) is a unique experiential quality, it

is not a primary quality of one single object which we perceive directly but involves a comparison. When we say that something is funny we have experienced an incongruity between objects, between elements of an object or between an event and an expectation. This contrast is also reflected in the fact that the terms (e.g., funny, comical) we use to denote the perceived properties of stimuli causing us to engage in such playful processing of incongruity have also second meanings referring to the unusual (e.g. "peculiar," "strange," or "odd") as well as to the suspicious ("There was something funny about these extra charges"). Incongruity often comes unexpectedly and the perception of humor may involve surprise; indeed, there is overlap between surprise and humor as regards both the eliciting stimuli and the information processes preceding these qualia (Meyer, Reisenzein & Schützwohl, 1997).

1. What is Humor?

There is not yet an agreed-upon terminology in humor research. Rather there are different and conflicting terminological systems and two should be mentioned as they assign the key term "humor" different roles. One historical nomenclature stems from the field of aesthetics where *the comic* (or: *the funny*) — defined as the faculty able to make one laugh or to amuse — is distinguished from other aesthetic qualities, such as beauty, harmony, or the tragic. Humor is simply *one* element of the comic — as are wit, fun, nonsense, sarcasm, ridicule, satire, or irony — and basically denotes a smiling attitude toward life and its imperfections: an understanding of the incongruities of existence. Humor in this narrow sense was seen to be based on a sympathetic heart, not on a superior spirit (like wit), moral sense or even haughtiness (like mock/ridicule), or vitality/high spirits (like fun). The other major terminological system, largely endorsed by current Anglo-American writers, uses humor as the umbrella-term for *all* phenomena of this field. Thus, humor replaced *the comic* and is treated as a neutral term; i.e., not restricted to positive occasions for laughter.

Schmidt-Hidding (1963), endorsing the former terminology, described eight styles of the comic/funny according to seven distinguishing features (such as major intention/goal of the comic message, the ideal audience, subject of the comic, attitude of the agent, linguistic features) each of which he summarized from the literature. Based on a factor analysis of these descriptions (Ruch, 1997), one can assume that the field of the comic is at least two-dimensional, with the eight styles forming an arc of about 110° between the factors denoting the more benevolent ("laughing with") and skeptical ("laughing at") comic styles (see Figure 1). Based on the correlation of personality scales with these two factors, one can conclude that the comic styles associated with the first factor are more likely to be performed by individuals prone to positive affect and cheerfulness, whereas the "laughing at"-styles are more typical for individuals scoring high in scales of negative affect and bad mood.

Rotating the axes by 90° yields a coordinate system that separates the mental/cognitive from the affective/motivational elements. Thus, the capacity for perceiving incongruity and creating a funny effect might be blended with both benevolence and malevolence; i.e., it may serve to portray human weaknesses in general in an accepting way or to poke fun at the weaknesses of a particular person.

Similarly, a factor analysis of a comprehensive list of German humor-related nouns (e.g., joker, wit, cynic) resulted in a highly similar two-dimensional space (Ruch, 1997). As also antonyms (i.e., nouns related to humorlesness) were included, the circumplex structure found was more elaborated covering an arc of about 280°. Again, one possible position of the axes separated affective (good vs. bad humoredness) from mental (sensibleness vs. nonsense) elements.
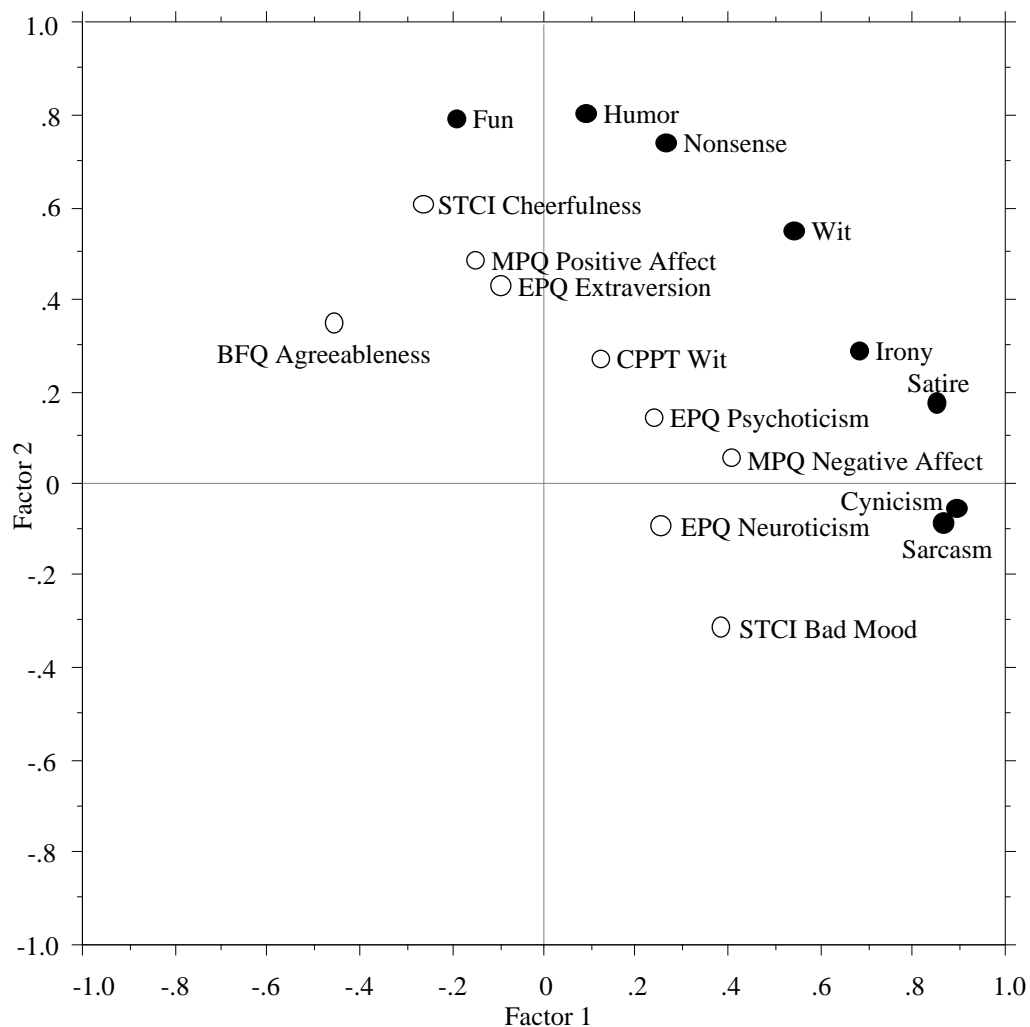

Figure 1. A two-dimensional space of comic styles and the location of personality scales (N = 106).

Thus humor (in the broad sense, as I will use it from here on) should be seen as a multifaceted phenomenon hardly to be accounted for by any single theory or to be examined by a single paradigm. Despite the fact that humor might be blended with different motives and may involve almost all topics of relevance to humans, many humor researchers believe in a cognitive nucleus of the funny experience suggesting that the mental dimension described above is the more basic one. They developed models that describe minimal conditions that are necessary to elicit a humor response; i.e., the perception that something is funny. In my further treatment of the perception of humor I will restrict myself to this cognitive dimension.

2. Theories of Humor Appreciation

Numerous theories have been proposed to explain the perceived funniness of humor, with cognitive approaches being the most prominent together with arousal and superiority theories (for a review, see Keith-Spiegel, 1972). Cognitive theories typically analyze the structural properties of humorous stimuli or the way they are processed; sometimes these two levels are also mixed up.

Perhaps beginning with Aristotle, incongruity was considered to be a necessary condition for humor. In this tradition, humor involves the bringing together of two normally disparate ideas, concepts, or situations in a surprising or unexpected manner. Koestler (1964) coined the term "bisociation" to refer to the juxtaposition of two normally incongruous frames of reference, or the discovery of various similarities or analogies implicit in concepts normally considered remote from each other. Although there is general agreement that incongruity is a necessary condition for humor, it was argued that it is not a sufficient one. Sheer incongruity may also lead to puzzlement and even to aversive reactions. To account for this, such variables as the resolution of the incongruity (Suls, 1972), the acceptance of unresolvable incongruity, or the "safeness" of the context in which the incongruity is processed (Rothbart, 1976) have been proposed. Rothbart and Pien (1977) suggested to distinguish between possible and impossible incongruities and between complete and incomplete resolutions. They argue that only possible incongruities can be resolved completely while for an impossible incongruity only a partial resolution is possible and a residue of incongruity is left.

A precise description of what makes a text funny is provided by linguists. Raskin (1985) presented in detail the first formal semantic theory of jokes which — due to its reliance on the concept of "script" (a structured chunk of information about lexemes and/or parts of the world) — became known as the Semantic Script Theory of Humor (SSTH). The SSTH can be summarized as two necessary and sufficient conditions. A text is funny if and only if both of the two conditions obtain: (i) the text is compatible, fully or in part, with two distinct scripts; and (ii) the two distinct scripts are opposite (i.e., the negation of each other, if only for the purpose of a given text), following a list of basic oppositions, such as real/unreal,

possible/impossible, etc. For example, Raskin's prototypical joke ("Is the doctor at home?" the patient asked in his bronchial whisper. "No," the doctor's young and pretty wife whispered in reply. "Come right in.") is compatible with the two scripts "doctor" and "lover" and the scripts are opposite on the sex vs. non-sex basis (for an elaborated interpretation see Raskin, 1985). A revision of the SSTH led to the General Theory of Verbal Humor (GTVH, see, for example, Attardo, 1993) which introduced, besides scripts, five other "knowledge resources", that must be tapped into when generating a joke, namely script opposition, logical mechanism, target, narrative strategy, language, and situation.

How are humorous texts processed? Models typically described two distinct albeit different stages or recursive processes. For Kant laughter is "... an affection arising from the sudden transformation of a strained expectation into nothing". In other words, that which is originally perceived in one (often serious) sense is suddenly viewed from a totally different (usually implausible or ludicrous) perspective. Eysenck (1942; p. 307) suggested that "laughter results from the sudden, insightful integration of contradictory or incongruous ideas, attitudes, or sentiments which are experienced objectively." Based on prior work, Suls (1972) presented a two-stage model of humor appreciation that emphasized the understanding aspect. According to this model, the perceiver must proceed through these two stages to find a joke or cartoon funny. In the first stage, "... the perceiver finds his expectation about the text disconfirmed by the ending of the joke ... In other words, the recipient encounters an incongruity — the punchline. In the second stage, the perceiver engages in a form of problem solving to find a cognitive rule which makes the punchline follow from the main part of the joke and reconciles the incongruous parts." (p. 82).

In the doctor's wife joke above, the ending ("come right in") is incongruous, as it does not readily follow the prior "no" and it is not supplemented by a statement to the effect that the patient was welcome to wait for the doctor's return. Thus it does not make sense for her to invite him in. However, the hints *young* and *pretty* help the recipient to reinterpret the text along the lines that not the doctors' patient, but his wife's lover is knocking on the door, and suddenly the ending (including the wife's unexplained whispering) makes sense and follows from the joke body.

Neurological evidence suggests that the two brain hemispheres might be differently involved in the two stages, with the left hemisphere "setting up" the joke and the right "getting it" (see McGhee, 1983). Studying event-related brain potentials in response to jokes (where the last word, containing the incongruity, was presented after the joke body to be used as a trigger point), Derks, Gillikin, Bartolome and Bogart (1997) found that jokes that did not elicit laughter showed no evidence of a N400 while those that elicited laughter showed a negative wave at about 400ms presumably representing the incongruity-triggered disruption and possible extension of the categorization process. However, the activity was present in both hemispheres of the cortex.

According to the model there are two possible outcomes of the second stage: laughter (if the rule is found) or puzzlement (if it is not found). While the latter is plausible, the former has been doubted. Why should the resolution immediately lead to laugher? Having borrowed the flow chart of a problem solving computer program, this model can not go much beyond seeing humor as being a problem solving activity. While the model described the comprehension part well, it does not explain appreciation. It is likely that the cognitive processes continue after resolving the incongruity. Unlike after real problem solving, the recipient is aware that the fit of the solution is an "as if"-fit. Already Lipps (1898) noted that what makes sense for a moment is subsequently abandoned as not really making sense. At a meta-level we experience that we have been fooled; our ability to make sense, to solve problems, has been misused. Thus, in particular for the impossible incongruities and their partial resolution, the two-step (i.e., step I: detection of incongruity or violation of a build-up expectation; step II: resolution of incongruity) model needs to be expanded to include a third stage of detecting that what makes sense is actually nonsense[1]. This third stage then allows to distinguish between joke processing and mere problem solving. If the processes indeed would end with the resolution of the incongruity, we would not be able to distinguish whether we just resolved a problem (as in riddles) or whether we processed humor. We would believe in the outcome of the problem solving activity — that it has truth-value. Some authors postulated even further oscillations between the two interpretations of the text or two perspectives involved; like playing with sense and nonsense (for conflict or ambivalence theories, see Keith-Spiegel, 1972).

The problem solving aspect might also be peripheral, as we might respond more to the connotative elements involved; e.g., in the joke above some might experience a rapid succession of one's sympathy for a patient in pain and one's feelings towards adultery. Furthermore, Derks, Staley and Haselton (1998) rightfully raised the question whether joke comprehension is so demanding that it has a problem solving quality. Based on their results they suggest that perceiving humor is more an automated expert-like behavior. However, the "mastery" studies show inverted-u functions between children's development, complexity of jokes and appreciation (McGhee, 1979) and intelligence predicts humor (Ruch, 1992).

So far little research attention has been paid to the temporal characteristics of the perception of humor; for example, wit is quick, in jokes there is a sudden manifestation of the incongruous, while in humorous stories there might be a gradual realization of the incongruous. Thus, the perception of humor may differ in intensity, duration and its form over time. This, in turn, suggests variations in the techniques and material. Finally, humor may involve different modes; for example, it can be verbal (e.g., jokes), graphical (cartoons, caricatures), acoustical (funny mu-

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[1] Thus, while both Suls and Lipps propose two-stage models, these models are different as the incongruity-resolution model covers stages one and two and Lipps' model refers to stages two and three.

sic), or behavioral (e.g., pantomime), again making matters very complex. So far, the scope of most theories is limited to the analysis of jokes and cartoons.

2.1. Traditional and Nontraditional Vehicles for Transporting Funny Incongruity

The empirical test of the validity of the theoretical models is contingent on the variation of the key ingredients (e.g., degree of incongruity, resolution, salience of contents); however they cannot be varied independently of each other by manipulating a joke or cartoon. For example, making the punch line more incongruous simultaneously means changing its content or other properties. One way out is, for example, to leave the jokes intact, but undertake a differential priming of the two meanings of a key word in a joke (Wilson, 1979), or a priming of the theme (Goldstein, Suls & Anthony, 1972) or even the structure (Derks & Arora, 1993) of the jokes to follow.

Another possibility is the use of artificial humor stimuli. This may take, for example, the form of sequences of words deviating from proper grammatical sequences (Ehrenstein & Ertel, 1978), adjective-noun pairs varying in semantic distance (Godkewitsch, 1974), a domains-interaction approach (Hillson & Martin, 1994) or computer-drawn caricatures with various degrees of exaggeration (Rhodes, Brennan & Carey, 1987). Such studies typically demonstrate the importance of an intermediate degree of incongruity.
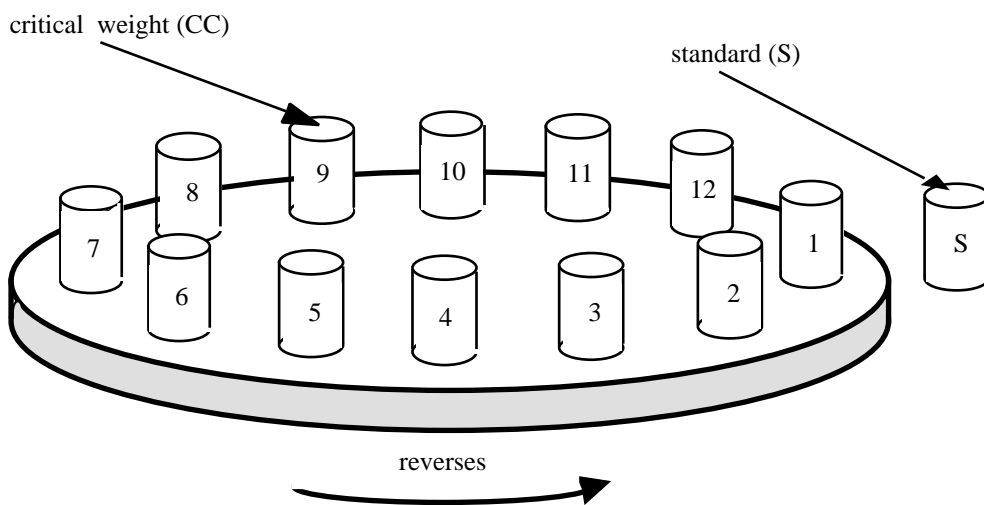

Figure 2. Arrangement of cylinders in a weight-judging task.

A sophisticated way to vary the degree of incongruity is to implement it in a psychophysical task. This became known as the weight-judging paradigm (WJP) in humor (see Deckers, 1993). Participants are instructed to make a series of judgments between a pair of weights. The first weight of the pair remains the same and is referred to as the standard (S) (see Figure 2). The second weight of the pair is the comparison (C). An experiment might involve 6 to 12 comparisons presented by

means of a "lazy Susan"-type of circular tray. The subjects lifts the standard and then one of the comparisons and must subsequently indicate whether C is heavier or lighter than S. The weights vary in heaviness with half of them being lighter and half of them being heavier than the standard. The cylinders containing the weights are visually indistinguishable. The expected weight is the mean of the weights lifted so far. Incongruity is operationally defined as the difference between the weight of the critical comparison (CC) and the expectation (i.e., the standard).
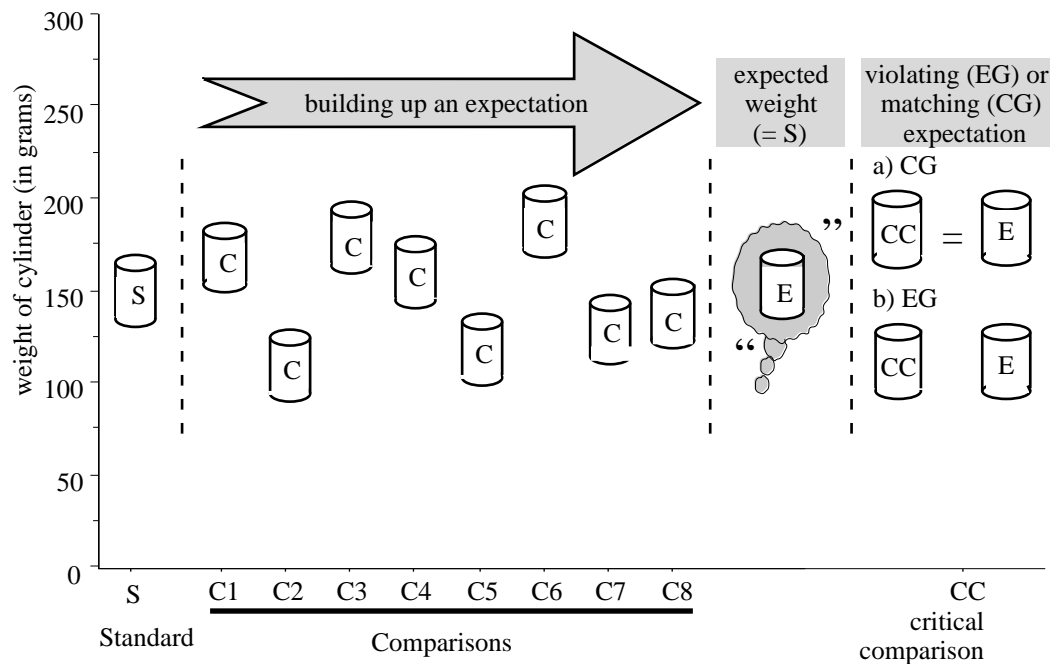

Figure 3. The two stages in the set-up of the weight-judging task: building up an expectation about the weight of the comparison and violating this expectation to different degrees.

For example, in the study by Ruch, Köhler and van Thriel (1999) the weight of the eight comparisons varied between 110 and 140, and 160 and 190 grams (in intervals of 10 grams) with the standard being 150 grams (Figure 3). These eight trials are used to build up an expectation about the weights. In the control group the critical comparison was 150 grams yielding the "expected" outcome; this is equivalent to a congruous ending of a story (or a joke where the incongruity is not perceived by the recipient). In the experimental groups, the CC was either 600, 1000, or 1600 grams creating an incongruity by violating the expectations; these differences from expectation (CC - S) being 450, 850, and 1450 grams, respectively.

As in prior studies, the degree of incongruity affected the perceived surprise, funniness, and amusement, but also the facial signs of enjoyment; i.e., AU12 and AU6 in the *Facial Action Coding System* (FACS; Ekman & Friesen, 1978). However, in WJP-studies no downward turn of the curve of intensity of amusement can be found for higher degrees of incongruity.

While these methods seem to validly implement incongruity into nontraditional humor stimuli and circumvent problems emerging with the manipulation of traditional humor, so far little is known about how they overlap among each other and with traditional humor stimuli. For example, much to their surprise, Ruch and Köhler (1998) report that enjoyment induced by the WJP is correlated with finding incongruity-resolution humor funny and nonsense humor (humor with left over traces of incongruity) aversive; however, the WJP was introduced as a paradigm for the study of incongruity, not to verify the incongruity-resolution model of humor.

2.2. Surprise as a Mediating Factor in the Enjoyment of Incongruity?

Different theories assign surprise a prominent role in humor (see Keith-Spiegel, 1972). The incongruity-resolution model as proposed by Suls (1972) suggests that "degree of incongruity is directly related to the amount of surprise experienced, and the amount of surprise that the punch line creates should produce a corresponding need to solve the problem. ... The prediction here is that the more surprising the punch line, the more one should want to overcome the surprise. When the problem is solved, the recipient should experience greater appreciation". (Suls, 1972; p. 91). This leads to the prediction that the perception of humor will be blended with the subjective experience of surprise. Furthermore, as there are physiological and behavioral indicators of surprise (or the orienting response), they should be located between detecting the incongruity and the onset of enjoyment.

Despite the frequent mentioning of surprise as an intervening variable involved in humor appreciation, so far there is little empirical evidence for its manifestation. Most of the evidence available stems from verbal ratings of surprise. These data, however, show that subjects report elevated degrees of surprise and the expected positive correlation between surprisingness and funniness (Deckers, 1983, Ruch et al., 1999). In a pilot study using a weight-judging task, six out of 24 amused participants displayed facial signs of surprise before a smile. As the observed raising of the eyebrows (AU1 and AU2 in the FACS) was of low intensity, in the subsequent study we utilized facial electromyography (EMG) to be able to detect even slightest contractions of the frontalis muscle[2] in response to incongruities transported via a WJP, 20 jokes presented auditorily, and a "jack-in-the-box"-gag. While surprise and amusement were the most intensive feelings induced, and the amount of felt surprise and amusement were positively correlated, frontalis actions were infrequent and only rarely preceded a smile or laugh in response to jokes (4.11%) and when lifting the incongruous weight (17.85%) in the defined time slot[3]. Also, there

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[2]Facial-EMG was recorded from the zygomatic, corrugator, frontalis, and obicularis oculi muscle regions using the recommended electrode placements (Fridlund & Cacioppo, 1986). The digital data collection was accomplished under the control of an Apple Macintosh Quadra 950, an electromyogram amplifier module (EMG 100 A, BIOPAC Systems, Inc.), and a data collection software (AcqKnowledge 2.1).

[3]While the "Jack-in-the-box" - gag most reliably induced frontalis activity (56.41%), it may be that some of them were overlaid by a startle response.

were frontalis actions concordant with the incongruity (and felt surprise) but not followed by a joint contraction of the zygomatic major and orbicularis oculi muscles (and felt amusement). Nevertheless, patterns like the one displayed in Figure 4 also emerged.
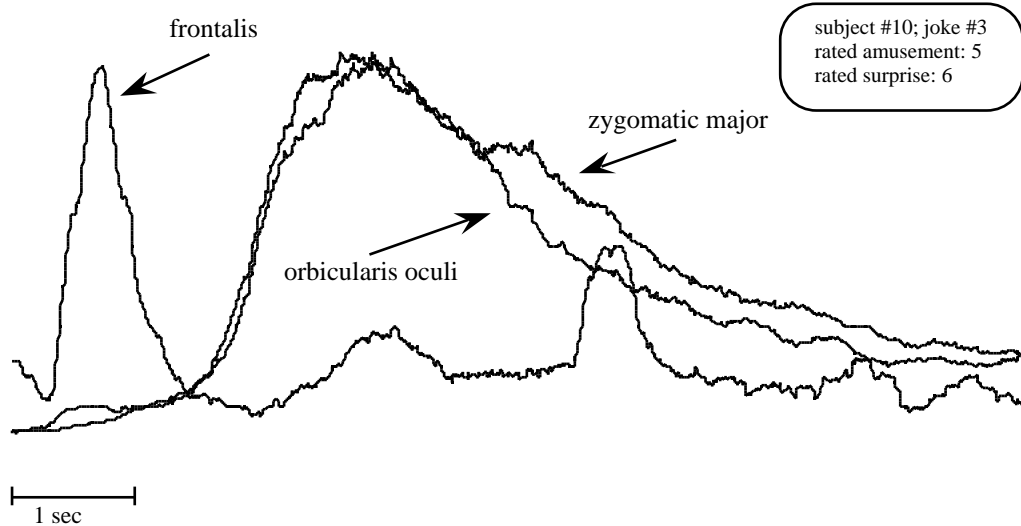

Figure 4. EMG-recordings from the frontalis (surprise) and orbicularis oculi and zygomatic major muscles (enjoyment) of a research participant reporting to be amused and surprised by an auditorily presented joke.

In such cases a facial indicator of surprise preceded the enjoyment display supporting the view that surprise occurs between the detection of the incongruity and the release of the positive affect. Figure 4 shows a steep onset in frontalis activity before the ballistic and highly coordinated contraction of the zygomatic and orbicularis oculi muscles. Note that while the surprise response has returned to baseline after one second, the intensity of the amusement expression is still increasing.

The rare occurrence of surprise casts doubt on the assumption that humor generally induces a sequence of emotions, namely surprise first (as a function of incongruity) and enjoyment second (as a function of its resolution). Thus, facial criteria do not support the equating of the type of surprise that is posited as an intervening variable in models of humor appreciation with the emotion of surprise as it is understood by emotion theory. Also, it might be that the element of suddenness is missing in the jokes and the WJP (but not in the jack-in-the-box gag). These findings also draw attention to the above mentioned different time course of incongruity that is neglected most of the time. In some humor there is a sudden manifestation of the incongruous, while in humorous stories there might be a gradual realization of the incongruous. Also, we have to consider that the experienced recipient is anticipating an incongruous ending (even if not anticipating the exact punch line) which should reduce the amount of surprise.

3. Individual Differences

Humor is in the eye of the beholder and thus the identification of those variables that affect the perception of humor is necessary. Why is it that somebody finds a joke absolutely hilarious, the next considers it boring and still another one embarrassing? Many studies have set out to investigate the questions of "what is funny to whom and why" and enriched our understanding of both humor and personality. In fact, the study of humor appreciation has even been seen to be a means to understand the individual, and it has been suggested that humor inventories might be used as an "objective" test of personality (Cattell & Tollefson, 1966).

3.1. A Taxonomy of Jokes and Cartoons

What aspects are reflected in individual differences in the perception of humor? Naturally, as content and structure have to be distinguished as two different sources of pleasure in humor, one would assume that both are also pivotal in producing individual differences. While intuitive and rational taxonomies typically distinguish only between content classes, factor analytic studies show that structural properties of jokes and cartoons are at least as important as their content, with two factors consistently appearing: namely, incongruity-resolution (INC-RES) humor and nonsense (NON) humor. Jokes and cartoons of these factors have different content (e.g., themes, targets) but are similar with respect to the structural properties and the way they are processed.

Jokes and cartoons of the INC-RES humor category are characterized by punch lines in which the surprising incongruity can be completely resolved. The common element in this type of humor is that the recipient first discovers an incongruity which is then fully resolvable upon consideration of information available elsewhere in the joke or cartoon. There is a certain projective element in these jokes as essential things are not spelled out and have to be supplemented by the recipient; often resolving the incongruity requires attributing motives and traits (e.g., stingy, mean, stupid, absent-minded) to the characters depicted in the jokes. Although individuals might differ with respect to how they perceive and/or resolve the incongruity, they have the sense of having "gotten the point" or understood the joke once resolution information has been identified. At the time this factor was first extracted, it seemed that the two-stage structure in the process of perceiving and understanding humor described by Suls (1972) is a model that fits well to these jokes and cartoons, and hence incongruity-resolution humor was considered to be an appropriate label for that factor.

Nonsense humor also has a surprising or incongruous punch line, however, "... the punch line may 1) provide no resolution at all, 2) provide a partial resolution (leaving an essential part of the incongruity unresolved), or 3) actually create new absurdities or incongruities" (McGhee, Ruch & Hehl 1990; p. 124). In nonsense humor the resolution information gives the appearance of making sense out of in-

congruities without actually doing so. The recipient's ability to make sense or to solve problems is exploited; after detecting the incongruity he is misled to resolve it, only to later discover that what made sense for a moment is not really making sense. Rothbart and Pien's (1977) impossible incongruities that allow only for partial resolutions are characteristic of the nonsense factor, while their possible incongruities allowing for complete resolutions are more prevalent in INC-RES humor.

While both the incongruity-resolution and the nonsense structure can be the basis for harmless as well as tendentious content, only few contents seem to be salient enough to form independent factors. The pool of jokes and cartoons we analyzed contained different content areas (including aggression), but only sexual humor formed a robust factor overpowering the structure variance. These factors were first extracted in studies of Austrian samples and later replicated in Belgium, England, France, Germany, Israel, Italy, and Turkey (for a review of the development and validation of the taxonomy see Ruch, 1992; Ruch & Hehl, 1998). The 3 WD humor test (Ruch, 1995) was constructed to assess funniness and aversiveness of these three types of humor.

3.2. Humor Appreciation and Personality

The rationale for the prediction of personality correlates of humor appreciation was primarily based on the fact that the two humor structures mainly differ with respect to the degree of resolution obtained: in incongruity-resolution humor a complete resolution of the incongruity is possible while there are residual traces of incongruity in nonsense humor. Thus, in INC-RES the resolution of incongruity contributes to appreciation whereas in NON appreciation is based on the existence of residual incongruity. This consideration and evidence from other sources (see Ruch, 1992) led to the hypotheses that appreciation of the incongruity-resolution structure is a manifestation of a broader need of individuals for contact with structured, stable, unambiguous forms of stimulation, whereas appreciation of the nonsense structure in humor reflects a generalized need for uncertain, unpredictable, and ambiguous stimuli.

According to Wilson's (1973) dynamic theory of conservatism this trait reflects a *generalized fear of both stimulus and response uncertainty*. This should lead more conservative individuals to show greater avoidance and dislike of novel, complex, unfamiliar, incongruous events and to prefer and seek out stimuli which are simpler, more familiar and congruent. This hypothesis was validated for visual art, poetry, and music. Not surprisingly, then, the hypotheses that conservative persons find incongruity-resolution humor more funny and nonsense humor more aversive than liberals were substantiated in several countries, with conservatism being the most potent predictor of humor appreciation found so far. While conservatism does not predict the *seeking* of stimulus uncertainty, the trait of sensation seeking, and in particular the component of experience seeking, does. Experience seeking involves the seeking of stimulation through the mind and the senses, through art, travel, even

psychedelic drugs, music, and the wish to live in an unconventional style, and there is evidence that it is closely related to the novelty and complexity dimensions of stimuli (Zuckerman 1994). Therefore it was hypothesized and substantiated in several countries that experience seeking is positively related to appreciation of nonsense humor (for details see Ruch 1992).

The hypothesis that incongruity-resolution humor is preferred by individuals who generally dislike stimulus uncertainty and nonsense humor is appealing to those generally enjoying or searching for uncertainty was also substantiated in the field of aesthetics (Ruch & Hehl, 1998). For example, while appreciation of INC-RES correlated with liking of simple and representational paintings, and simple line drawings (such as a triangle, square, or cross), appreciation of nonsense correlated positively with liking complex and fantastic paintings (e.g., by Dali), liking of complexity and asymmetry in freehand drawings and polygons, and also with producing complexity in black/white patterns and enjoying and enhancing visual incongruity when wearing prism glasses which distort the visual field.

4. Closing Remarks

The study of humor provides an excellent area of consciousness study in as much as it refers to a very complex experience. Having a cognitive nucleus, the humor experience is fed by emotional and motivational factors (e.g., desires, needs, unconscious processes). Even adverse or tragic events can be seen from a humorous perspective as well, thereby blending the perception of humor with qualia of negative valence. Little is know about the conditions how and to what extent humor neutralizes such antagonistic states. As a typical human experience, humor warrants further inquiry.

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