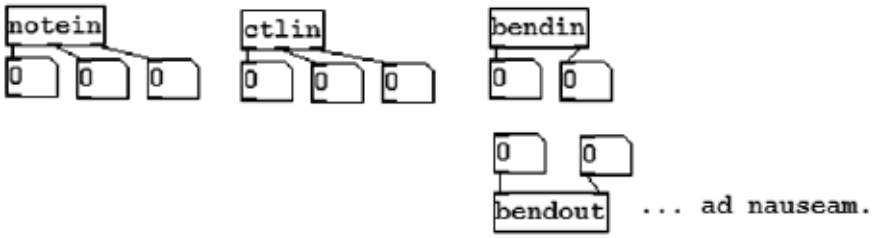
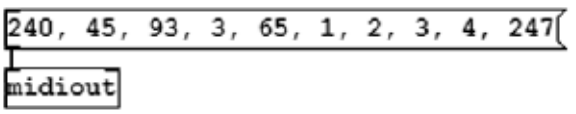
Pd offers input and output objects for MIDI:



... ad nauseam.

You can format your own SYSEX messages as shown:



and receive SYSEX via: sysexin

updated for Pd version 0.34

Creating from informal communication and Open Source

Werner Jauk

Art as process necessitates not only the communication of "ephemeral products" as a method of creating but more consequently the communication of the methods of creation itself. The development of tools is thus a part of the process art as creating from communicative behavior.

These assumptions follow the model of communication in the community of science as a method of gaining knowledge – the authorship is thus the context of the text. Scientific methods attempt to minimize the subjective influences of the actors in the research process on knowledge – like the discussion in science of the subjective worth of the participants in collective as well as collectivizing processes (cf. de Kerkhove 1995), a joint action should be inserted into the discussion.
Due to the deconstruction of the interconnection of product and creator/owner, collective and informal creation is part of a socio-political impetus toward informalization and thereby part of a horizontalization process – in addition to technical/economic availability, psychological availability could broaden this horizontalization.

By definition, Open Source focuses on access to and the supply of source code for the controlled collective development and adaptation of software for the generation of mathematical processes but also the development of communication interfaces between humans and machines – the definition also affects statements about accessibility, thus about the people acting and their tools for communication – it addresses political correctness only generally.

> Open Source[1] doesn't just mean access to the source code. The distribution terms of open-source software must comply with the following criteria:
>
> 1. Free Redistribution
> 2. Source Code
> 3. Derived Works
> 4. Integrity of The Author's Source Code
> 5. No Discrimination Against Persons or Groups
> 6. No Discrimination Against Fields of Endeavor

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1 <http://www.opensource.org/docs/definition.php>
The Open Source Definition Version 1.9
Origins: Bruce Perens wrote the first draft of this document as "The Debian Free Software Guidelines", and refined it using the comments of the Debian developers in a month-long e-mail conference in June, 1997. He removed the Debian-specific references from the document to create the "Open Source Definition." Copyright (c) 2005 by the Open Source Initiative

7. Distribution of License
8. License Must Not Be Specific to a Product
9. License Must Not Restrict Other Software
10. License Must Be Technology-Neutral"

The availability of the conditions for access is specific to Open Source communities: psychological availability is a subordinate theme; technical and legal/economic aspects are in the center of attention.

This implies the participation of those with specific knowledge in Open Source communities and explicitly excludes those without this knowledge. The acquisition of specific knowledge is correlated with the habituation to certain attitudes, values, and behavior patterns. Knowledge – formulated in symbolical languages – is not free of cultural imprints like the implications of cultural imprinting. This still necessary elite behavior stands observably in opposition to the ideological statements of participants who speak of horizontal structures and also transfer them to political systems; in comparison with the hierarchical (in the sense of the authority) participation in helping work for exclusive or primary uses, Open Source is intended to be an alternative process of production in an alternative economic system.

The approach to the general and the ideological excess of Open Source is not only dependent on technical/economic conditions but also on individual, socio-psychological, and historic/political values – these are in part the results of present social living arrangements and their economic and political basis.

I – Individuality, the Power of Personal Borders

One's own level of activation is a physiological condition of a personality trait which expresses itself in social behavior: introverts are people for whom their own high activation is enough to reach the activation level they prefer. Extroverts raise their small activation level by outer activities which extend into the area of social behavior; they appear more communicative (cf. EYSENCK 1967, 1990). In conjunction with cognitive styles of processing information (e.g. open vs. close-mindedness), individual predispositions are mentioned as a potentiality for human social positioning – the interaction of individual and social processes is ultimately varied.

Organizational and group psychology recognize a distinction in the efficiency of group achievement depending on the kind of task in formal and informal group structures (cf. Weinert 1998), in groups with central creation and in those with local (self) organization.

In general, problems which can be solved linearly and logically are solved more efficiently – that is to say more quickly – in formally structured groups than those tasks whose solutions are less able to be determined in advance or who ultimately are insolvable through additive

individual performance but are dependent on the specific (also emotional) strengthening of individual performance.

For a first-class solution of tasks, informal groups additionally require the solution to the problem of the structuring of the group and thus the paths of information transfer (Guetzkow & Simon 1955). In the second kind of task defined, structuring and information transfer are part of the problem to be solved and adjust in relation to one another – preordained structures inhibit unintended solutions. The structuring of the group and the structuring of the problem are implications of collective generation which mutually refer to one another. Informal groups are formed through communication. In contrast to a mechanistic understanding of information transfer (cf. Shannon & Weaver 1949), communication occurs here not reactively (cf. Popper 1975) but interactively (Bales 1950, Jauk 1995).

What may play a smaller role within certain confinable tasks and problem solving strategies because objective requirements outshine subjective abilities and interests becomes an explicit creative problem for the group and its creation in informal structuring of vaguely circumscribed groups and their indifferent function: the individual readiness to assimilate into the group, to assume the development of dynamic roles in the process of forming groups; the rank of the members of a group seems to outshine the network structure concerning their efficiency (Moore, Johnson & Arnold 1972). Individual integration is partly determined by the motivation to participate, which is determined by the attractiveness of the group to the individuals.

Thus the striving for power and the submission to power are opposite poles of individual interests. In the formation of informal groups, both dispositions do not necessarily lead to a position as leader (as regards emotion or content) or followers. General acceptance of an individual person's behavior determines his or her position, popularity, and the attribution of competence. Reversals are born by counterpoles and outsiders in regard to content and emotion; their meaning is accompanied by a change in direction of the content and of the strategies for solution.

II – Enculturation, the Power of Cultural Inscription

Apart from dispositions determined by socio-psychology and personality, historical burdens (cf. Gadamer 1960) and political imprinting as determinants of individual behavior are of interest in regard to the ability to create informal structures.
Science picks out this kind of creation as a central theme in parallel to art in the fifties. Self-organization as an idea of W.A. Clark and G.B. Farley is stamped by the liberation from mechanistic limits of determination. "They recognized, that operators in a closed relationship are somehow stabilized and – still without knowing a theory of recursive functions or of peculiarities – observed the phenomena that certain closed systems develop stable forms of behavior

after a certain amount of time." (Heinz von Foerster und Bernhard Pörksen, 1998, p. 92) Self-organizing systems are complex, which means that their parts are interconnected with each other through reciprocal, permanently changing relationships; they are self-referential, which means each behavior of the system has an effect on itself and becomes a starting point for further behavior; they are redundant, which means they know no separation between organizing, creating, or managing parts; they are all potential creators without hierarchy; they are autonomous, which means interactions in the system are only determined by this alone. Bales (1950) describes the self-organization of (socio-psychological) groups concerning their organization and the content they treat, a model which becomes fruitful later in the interactive and communication arts and separates the cybernetic from a communication theoretical view.

Adorno (1947) combines informal organization forms and on the other hand collective free improvisation – both tested in the fifties – in his definition of the communicative art form of music as a (historically altered and therein) formalized form: polyphony is the objectivation of the we. Pop makes this avant-garde popular in the sixties; the group determined form of the "we" in music entered into public consciousness as a collective creation.
The visual arts postulated cooperation, which is typical of music. Within music, collective creation was placed as a methodical step toward *get together*[2], to *art as teamwork* with the structuring of informal communication in free jazz of the fifties. *Self-organizing systems* and *horizontalization* were hackeresque reactions to the action affirming hierarchical structures of the previous generations which for the time being were being put into practice in artistic life (Jauk). Autonomy led further to self-determination and finally to a self-organizing structuring.
Collective decentralized creation has its avant-garde long before the tools supplied over electronic networks which had favored the fiction of a horizontal net-art and with it of a horizontal society. The Graz Forum Stadtpark – founded in 1959 – is an early example of a collective from the beginning of the sixties. Along with classical and the at that time early media art (photography), science is one of the institutions in the multidisciplinary collective. The Forum is based on interdisciplinary "self-organization […] which at that time was not yet recognized as a political achievement." (Mixner 1975 p. 15)

Nevertheless: "The […] hoped for revolution in interpersonal communication – even among artists – has not occurred. The high costs of hardware and communication rates are only one part of the problem – more decisive are the lethargy and inertia of 200 years of industrial culture and its consumerist repercussions. No one in our culture, artists included, is trained or encouraged to let others share in his or her creativity […]. The capability for shared creative activity is a necessary precondition for the interactive use of communications technology. We are all used to the producer/consumer relationship of the manufacture of things for consumption by others." (Robert Adrian X 1989, p. 147)

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2 Cf. Get Together. Kunst als Teamwork, hg. von Kunsthalle Wien. Wien, 1999.

III – Tools for Communication, the Power of Symbols

The high valuation of the ability to represent nature symbolically – along with a lower assessment of the natural and with it the physical, however – lies deep in the consciousness of self-image in European culture. This cultural attitude implies the priority of the use of certain tools for communication.
Efficient formal languages with little lack of clarity of expression (in redundancy as well as in ambiguity) were used to solve relevant problems adequately.
Net specific interactions and forms of communication are at a "low" level of formal languages and thereby are often phrased in the language of commands.
The use of special languages can only conditionally be legitimized as an adequate form of communication by disciplinary measures. It is fundamentally the "trauma" of a horizontalization stipulated by ideology; it is ultimately an elitist form of communication and rules out open communication and thereby a generalization used in many cases of the Open Source platform Pd, Pure Data, as public domain.
Ideological generalizations about open forms of communication on the net as creation from communication presuppose the general possibility for communication.

Open Source is directed against commercial systems which on their part use that general accessibility, psychological availability. They are optimized to be user-friendly and to appeal to the largest possible market and hence use intuitive forms of communication and icon-oriented – ultimately self-explanatory – tools.

Experimentally documented by Clynes (1977), body-oriented forms of interaction with high universality and an understanding which reaches across cultures are seldom if at all used. They have shown themselves to be not very fruitful on the commercial (game) market. Perhaps they are unfamiliar because they are too distant from previously experienced forms of interaction and thus are not accepted. As a direct physical manner of expression, they are ideologically devalued in comparison with the high cultural form of symbolic representation – precisely in their directness, they allow not only the description of emotions, not only their iconic representation but also the direct communication of the condition of the emotions. Clynes (1977) names those simple interfaces which express emotional qualities in the narrower sense of the word *sentics*.

Basal synesthetic aspects of the components of evaluation and of the components of intensity and activity are understood via these sensitive forms of expression which specifically adjust to the form of the physical movement. Intercultural comparisons cover the forms of communication which reach across cultures and are an unleashing of such implications shaped by empirical "enlightened" cultures – idealistically shaped forms do away with humble, direct physical expression and general pictorial communication and show the grammatical arrangement of syntactic events of arbitrary signs as the form of communication with the highest value of information, the highest restriction on uncertainty. They are cultural implications

and the antithesis of transcultural communication aside from economic and political claims to power.
A European conception of culture outshines non-European cultures and reduces globalization to a monoculture of Eurocentric origin.
The form of communication primarily used is loaded with socio-political traditions; both become habits individually; they are ultimately those "handicaps" which refuse general participation.

If the alternative position mixes up the general public with the corresponding popular slogan of mediocrity, isn't general availability a precondition of general codetermination? Average measure is not judged to be mediocrity, but is an implication of the turning to the general instead of the elite observation of the particular – a consciousness turning toward the general is a political and scientific position that does not attempt to give reasons for the universal validity in the particular.
A social democratic position melts with a science based on this scientific mindset in the Vienna circle as well as in CCCS (cf. Sandner 2001, 2002) – thus everyday life moves into the center and culture is understood as culture from below (Blaukopf et al 1983).

In comparison to the motive possibly giving reasons for and supporting instruction in modern science in order to bring certainty into our lives and its accomplishment, tolerance stands for something else – other cultural ways of thinking.
The quest for certainty nurtures the supremacy of those in the know and the danger of false certainty (able to be controlled methodically in part), of false precision (an artifact of scientific methods), and leads from scientific knowledge into ideological positions due to personal inadmissibility.
In "How I See Philosophy", Popper (1975/77) calls for overcoming power-obsessed vanity and gives arguments for living with uncertainty in the face of the danger of undemocratic prescriptions of individuals allegedly in the know, in the face of the experience of many who feel.

Living with uncertainty is a political precondition for the recognition of political alternatives, living with recognition instead of openness.
In principle, the generalization of Open Source to general political positions seems to be tied to personal susceptibilities which are not congenital and to personality forming processes oriented toward the imbalance of power beyond the handed down cultural conditions of industrialization and to fail because of this internalization – the power to do this may be the striving for certainty. A unidirectional way of thinking which progresses rationally and linearly – corresponding to the safeguarding of personal ways of thinking – increasingly gives way to the quality of experience of pararealities.

Language-oriented cultures formalize serial thinking in monocausal referencing. References are logically understood as true and false; the qualities of the criteria defining the goal are often undiscussed ideological premises. Holistically oriented cultures permit at the same time various qualities of determination, the criteria that define the goals, and the self-generation of

the goal as well. If speech-oriented cultures are visually dominated, then holistically thinking cultures seem to be close to auditorily dominated (cf. McLuhan 1995; Thall 1996). These alternative patterns of life of digital culture, which defines itself as musicalized and hedonistically newly defining itself (Jauk 2003) – a culture of that which can be deliberately done using codes distinguished from one of that which is naturally given – are formalized in a logic of the auditory (Jauk 2000)[3].

The idea of culture as the symbolic representation of reality (cf. Cassirer 1964) places the written word in the highest position of the means of communication and by focusing on the what of the message factors out the how, an oral quality which enters only slightly into the written language by means of punctuation marks and grammatical references. Iconic forms of communication are deemed too inexact; their advantage lies precisely in the ambiguity and the inclusion of connotative qualities. Physical forms of communication are ascribed to everyday and thus hardly noteworthy communication – emotional and thus social references among those acting are indexed optimally therein.

Our idealistic culture demands of itself to be a rationally controlled representation of reality and its generation on the level of symbols. Based on a semiotic understanding of culture, it ascribed communication via signals to lower beings. Today this is increasingly emerging as an alternative form of communication which permits uncertainty and ambiguity and regards emotionally determined forms. Seemingly "lower" levels of communication which implicitly or explicitly exclude the written language and highly formalized language prove to be alternatives for coping with life: such forms of communication are essential parts of languages of other cultures whose own understanding defies this rationality as an a priori feigned control of reality.

Pop has in the meantime become a global culture not created by the mass media but surely supported by it. Considered systematically, pop as a physical culture (Wicke 1998, 2001) has a high likelihood of being a global culture. If a push to be less formal has occurred through pop as physical culture (cf. Browne 2000), an informalization will thus occur from the unmediatized, direct physical forms of expression of an intuitively comprehensible communication, one which will furthermore encourage horizontal forms of society – despite all the free market and political interests allied with pop or (as McLarenesque punk showed) an undermining, hackeresque use of them.

[3] Furthermore, a musicalization is seen in the dynamization (Rötzer 1991, Charles 1989, Flusser 1985) to the racing standstill (Virilio 1992), to all-at-onceness (McLuhan 1995; cf. Thall 1996).

IV – Epilogue

Basically, the visually controlled body-environment interaction (Gibson 1982) has created a mechanistic view of things (Levy 2000) which finds its formalization in the logic of language. It seems there is a return of digital culture (JAUK 2003) to phylogenetically older auditorily controlled body-environment interactions, formalized in the collective form of communication of music and a theoretical guideline: not to negate a visual one but to extend this and thereby to produce a cultural interface to other cultures. A body-environment interaction at the same time controlled by several senses and its specific formalization in parallel logics leads to a thought and its communication by means of tools which transgress the boundaries established by culture.
Technological limitations of networks do not allow the legitimization of a global monoculture of the word and a linear logic. The instrumentalization of emotional physical expression and its communicative quality in music is a model for a hedonistically ordered interaction in electronic as well as transcultural space. Aside from all ideas about the ideologically charged stereotype of music as a language which joins people together, the paradigm of music as a particular cultural transformation of slightly mediatized basal forms of communication of the sounds that express emotions (Knepler 1977) and the behavior of expressions (Blacking 1977) holds the potential within itself to be an interface to a transculturality – as a form of expression and at the same time as a presentative sign (Langer 1953), as a physical expression valid across cultures (Clynes 1977).

Aside from the derived generation of knowledge, the adopting of ways of life with parallel realities rests on the personal capacity to give up the attempt for certainty/security in favor of live/lived uncertainty/insecurity. It pays to learn this as a cultural life technique which permits a transcultural way of life.
Living with uncertainty is thereby not a matter of altruism. In the manner of social evolution, one's own survival is the motivation and the reason for the inadequacy of coping with the modern way of life.
In global communication, being open is not only a matter of the source, of the means of communication; it is a matter of the actors and their own survival.

References:

Adorno, T. W. (1958). *Philosophie der Neuen Musik* [1947]. Frankfurt am Main: Suhrkamp.
Bales, R. F. (1950). *Interaction process analysis*. Cambridge.
Blacking, J. (1977). Towards an Anthropology of the Body. In: J. Blacking (Hrsg.), *The Anthropology of the Body* (S. 1-28). London: Academic Press.
Blaukopf, K., Botinck, I., Gardos, H. & Mark, D. (1983). *Kultur von unten. Innovationen und Barrieren in Österreich*. Wien: Löcker.
Browne, R. (2000). Journal of Popular Culture. In: *Comparative Studies in the World's Civilization*, 34/1, 157.

CASSIRER, E. (1964). *Philosophie der symbolischen Formen*. Darmstadt.
CHARLES, D. (1989). *Zeitspielräume. Performance Musik Ästhetik*. Berlin: Merve.
CLYNES, M. (1977). *Sentics: The Touch of emotions*. New York: Anchor Press/Doubleday.
COLLINS, Barry E.: A social psychology of group processes for decision-making / Barry E. Collins ; Harold Guetzkow. – 3. print. New York, NY [u.a.]: Wiley, 1966. – X, 254 S.
EYSENCK, H. J. (1967). *The Biological Basis of Personality*. Springfield, IL: Charles C. Thomas.
EYSENCK, H. J. (1990). Genetic and environmental contributions to individual differences: The three major dimensions of personality. In: *Journal of Personality*, 58, 245-261.
FLUSSER V. (1985). *Ins Universum der technischen Bilder*. Göttingen: European Photography Verlag.
FOERSTER, H. v. und PÖRKSEN, B (1998) *Wahrheit ist die Erfindung eines Lügners*
GADAMER, H.-G. (1986). Wahrheit und Methode. Grundzüge einer philosophischen Hermeneutik [1960]. In: *H.-G. G. Gesammelte Werke, 10 Bde. Hermeneutik I*. Tübingen: Mohr.
GIBSON, J. J. (1982). *Wahrnehmung und Umwelt*. München: Urban & Schwarzenberg.
GUETZKOW, H. & SIMON, H.A. (1955) The impact of certain communication nets upon organization and performance in task-orientated groups. In: Management Science 233–250.
JAUK, W. (1995). Interaktivität statt Reaktivität. In: H. Leopoldseder & C. Schöpf (Hrsg.), *Prix Ars Electronica 95* (S. 23-27). Linz.
JAUK, W. (2000). The Auditory Logic: An Alternative to the "Sight of Things". In: H. Nowotny, M. Weiss & K. Hänni (Hrsg.), *Jahrbuch des Collegium Helveticum* (S. 321-338). Zürich: Hochschulverlag Ag an der ETH Zürich.
JAUK, W. (2003). The Transgression of the Mechanistic Paradigm – Music and the New Arts. In: *Dialogue and Universalism*, 8-9, 179-186.
JAUK, W. (2004). Kunst und (Natur-)Wissenschaft. Aspekte der Theorien der Neuen Künste. In: In: E. List & E. Fiala (Hrsg.), *Grundlagen der Kulturwissenschaften. Interdisziplinäre Kulturstudien* (S. 225-244). Tübingen.
KERCKHOVE, D. de (1995). Kunst im World Wide Web. In: H. Leopoldseder, C. Schöpf (Hrsg.), *Prix Ars Electronica 95* (S. 37-49).
KNEPLER, G. (1977). *Geschichte als Weg zum Musikverständnis. Zur Theorie, Methode und Geschichte der Musikgeschichtsschreibung*. Leipzig: Reclam.
LANGER, S. (1953). *Feeling and Form. A Theory of Art Developed from Philosophy in an New Key*. London: Routledge.
LÉVY, P. (2000). Die Metapher des Hypertextes [1990]. In: C. Pias et al (Hrsg.), *Kursbuch Medienkultur. Die maßgeblichen Theorien von Brecht bis Baudrillard* (S. 525-528). Stuttgart.
MCLUHAN, M. (1995). *The global village: der Weg der Mediengesellschaft ins 21. Jahrhundert* (Übersetzung: C. P. Leonhardt, Einleitung: D. Baake). Paderborn.
MIXNER, M. (1975). Ausbruch aus der Provinz. Zur Entstehung des Grazer "Forum Stadtpark" und der Zeitschrift "manuskripte". In: P. Laemmle & J. Drews (Hrsg.), *Wie die Grazer auszogen, die Literatur zu erobern. Texte, Porträts, Analysen und Dokumente österreichischer Autoren*. München.
MOORE, J. C.; JOHNSON, E. B. & ARNOLD, M. S. C. (1972). Status congruence and equity in restricted communication networks. In: *Sociometry* 519–537.
POPPER, F. (1975). *Art, action and participation*. London: Studio Vista
POPPER K. (1977). Wie ich die Philosophie sehe. In: Coceptus XI, Nr. 28-30, 11-20. (1975). In: Lührs et al (Hrsg.), *Kritischer Rationalismus und Sozialdemokratie*. Berlin / Bonn-Bad Godesberg.
RÖTZER, F. (1991). Mediales und Digitales. Zerstreute Bemerkungen und Hinweise eines irritierten informationsverarbeitenden Systems. In: F. Rötzer (Hrsg.), *Digitaler Schein. Ästhetik der elektronischen Medien* (S. 9-78). Frankfurt am Main: Suhrkamp.
SANDNER, G. (2001). Die Politik des Kulturellen: Cultural Studies in Wien und in Birmingham. In: U. Göttlich, L. Mikos & C. Winter (Hrsg.), *Die Werkzeugkiste der Cultural Studies. Perspektiven, Anschlüsse und Interventionen* (S. 201-222). Bielefeld: Transcript.
SANDNER, G. (2002). From the Cradle to the Grave. Austromarxism and Cultural Studies. In: *Cultural Studies*, 16 (6), 908-918.

SHANNON, D. E. & Weaver, W. (1949). *The mathematical Theory of Communication*. Urbana III: University of Illinois Press.

THALL, N. (1996). *The McLuhan Millennium*. Cambridge, MA.

VIRILIO, P. (1992). *Rasender Stillstand*. München: Hanser.

WEINERT, Ansfried B.(1998): Organisationspsychologie: ein Lehrbuch / Ansfried B. Weinert. – 4., vollst. überarb. u. erw. Aufl. Weinheim [u.a.]: Beltz, Psychologie-Verl.-Union.

WICKE, P. (1998). "Move Your Body". Über Sinn, Klang und Körper <http://www2.hu-berlin.de/fpm/texte/wicke6.htm>, *Referat gehalten auf dem Symposium "Sehen und Hören in der Medienwelt" der Gesellschaft für Ästhetik Hannover*, 2.-4.10.1998. [Version vom 12.07.2005].

WICKE, P. (2001). Sound-Technologien und Körper-Metamorphosen. Das Populäre in der Musik des 20. Jahrhunderts. In: P. Wicke (Hrsg.), *Handbuch der Musik im 20. Jahrhundert: 8. Rock- und Popmusik* (S. 11-60). Laaber: Laaber.

X, R. A. (1989). Elektronischer Raum. In: *Kunstforum International*, 103, 142-147.