Werner Ulrich's Home Page: ***Ulrich's Bimonthly***

*Formerly "Picture of the Month"*

*November-December, 2011*

***Towards a Taxonomy of Research Practice***

HOME
WERNER ULRICH'S BIO
PUBLICATIONS
READINGS ON CSH
DOWNLOADS
HARD COPIES
CRITICAL SYSTEMS HEURISTICS (CSH)
CST FOR PROFESSIONALS & CITIZENS
A TRIBUTE TO C.W. CHURCHMAN
LUGANO SUMMER SCHOOL
**ULRICH'S BIMONTHLY** *(formerly Picture of the Month)*
COPYRIGHT NOTE
A NOTE ON PLAGIARISM
CONTACT
SITE MAP

***Helping researchers reflect and write about their practice*** We tend to think of research as a systematic form of inquiry that is regulated by conceptual frameworks, theories, and methods, and the aim of which is to establish new knowledge. This is not wrong, but it is seriously incomplete. Research is also, and first of all, a kind of social practice. What forms of inquiry are considered "research"; how we *do* it and how we assess and use its results; the ways it shapes our perceptions of reality and our notions of knowledge and expertise – these essential aspects of our understanding of research are all *socially constructed* (see Berger and Luckmann, 1966); that is, they evolve through practice.

Moving from the general notion of "research" to the level of specific research efforts, a similar observation applies. The aims and requirements that researchers associate with a specific research effort, no less than the assumptions that inform its findings and conclusions, will be shaped as much by the specific research context at hand as by general epistemological, methodological and sociological notions research; for it is only the specific context that allows defining what is needed and relevant.

*Research quality,* then, is no less a matter of research practice than it is a matter of what for lack of a better term I will call "research theory." *Research theory* as I understand it is made up not only by general theories of knowledge and science (an influential example is Popper, 1961, 1963, and 1972) but includes all kinds of theoretical and methodological frameworks and other social conventions – for social conventions they all are – that stipulate what researchers are expected to do and what accordingly in the worldwide research community as well as in the public domain is to be considered respectable research. By *research practice,* on the other hand, I mean what researchers actually do when they "research" a specific issue or situation and try to do justice to it, so as to come up with valid and relevant

Previous | Next

For a hyperlinked overview of all issues of "Ulrich's Bimonthly" and the previous "Picture of the Month" series, see the site map

PDF file

findings and conclusions. This effort requires reflection on how theoretical and methodological concepts can usefully be put into practice and adapted to the situation; it also requires a proper handling of all those genuinely practical aspects of research that are indispensable to do justice to the situation but which cannot be derived from general research theory and justified in its terms, for example, because they depend on the specific views and interests of the people involved or in some way concerned.

To be sure, as a matter of principle it is hardly adequate to oppose research practice to research theory; adequate research theory and practice should mutually inform one another. Adequate research theory would thus be grounded in and support research practice, and vice-versa. Unfortunately, this is not exactly the current state of the matter. Practicing researchers are often lost when they turn to the theoretical literature for advice about research practice. The bulk of established research theory has focused so much on the abstract, cognitive and methodological requirements of research that it has tended to lose sight of the importance of those other, "practical" aspects of research that cannot adequately be described and decided in terms of research theory, or at least not only so. For example, an important aspect of what I mean by research practice is its "self-reflective" quality**:** do the researchers involved in a specific inquiry systematically question the manifold assumptions on which its results depend and do they lay them open, as well as making sure that all the users understand their implications for all the parties concerned? Another, related aspect of research practice is its "emancipatory" quality: does research tend to make those it is supposed to serve depend on its ways to define and answer the issues in question, so that in effect it puts them in a situation of incompetence, or does it enable them to play a competent role?

My philosophical as well as "applied" interest in such research-practical questions explains why I have become a co-editor of the *Journal of Research Practice* (JRP), a journal that aims to help researchers in sharing and improving their research practices. Since its inception in 2005, the journal has managed to maintain quite a remarkable level of quality; but this has gone at the expense of rejecting many submissions or requesting revisions that did not ultimately result in publications. As a consequence, there has been a certain lack of papers that the journal was able to publish on a regular

basis without compromising its standards of quality. There was thus a very practical need for helping potential authors – researcher practitioners and scholars – in preparing submissions that respond to the journal's aims and quality standards.

***The JRP Concept Hierarchy*** To do something about the situation I initiated, together with my co-editor D.P. Dash, the development of a specific kind of research dictionary or "taxonomy" for the journal. A taxonomy is a systematic, hierarchical classification of concepts that are considered useful for describing essential objects or topics in a certain field of interest. A well-known example is provided by *biological taxonomies* of species, say, a taxonomy of plants (or of a subcategory of plants, say, flowers). Such a taxonomy allows identifying individual plants (or flowers) systematically on the basis of certain observable characteristics. These characteristics then permit a step-by-step procedure of examining and specifying the precise kind of plant one faces, as if in a decision tree.

To be sure, a *research taxonomy* is a more complex undertaking; the aspects of research that can be of interest to research practice are so multifaceted and interdependent that they can hardly be arranged in the form of a strict decision tree. A better way to approach the task is by thinking of these aspects as elements in a complex conceptual network that we want to help users explore, beginning at any place and moving in all directions. The more important it is that the concepts in questions are arranged and defined hierarchically, so as to provide a basic structure of order in the form of higher-level and lower-level concepts.

In cooperation with my fellow editor D.P. Dash, we designed the basic structure and initial content of what we call the *JPR Concept Hierarchy.* It has a three-level structure, and its initial content consists of well over 5,000 entries (but it is clear that many more entries will need to be added as the intended users make the framework their own and suggest new entries to meet their needs and interests). It aims to be a tool that researchers can use to reflect on their research and write about how they understand, practice, and experience it. At the same time, it aims to be a tool for the journal's editors in defining and communicating JRP's thematic priorities and editorial focus, so as to strengthen its profile. Ultimately, all the journal's readers, contributors,

and staff belong to the intended users**:** readers can use it to find in the journal material of interest to them; authors and commentators can use it to make sure their contributions respond to the interests of the journal, as well as to index their content; and the editorial staff and reviewers can use it to support well-founded decisions about individual submissions, by considering whether a paper contributes to the journal's aims and how it can be made to focus more clearly on one of its thematic priorities, as well as how it may be properly classified and indexed.

The term "concept hierarchy" may require some further explanation. Basically, a concept hierarchy is exactly what the term says – a conceptual framework that is structured hierarchically and is to form the nucleus of a specialized language (terminology) in a field of knowledge or inquiry. In the case of JRP, which is a transdisciplinary journal aiming to help researchers share their research experiences and learn from them, it is particularly challenging to develop such a research dictionary and underlying system of classification, given that there is such a wide range of interests and activities that may be pursued in the name and spirit of research. Trying to achieve completeness is neither feasible nor meaningful. What is feasible and meaningful, however, is to strive for a conceptual network that assists its users in systematically exploring and thinking through a certain research interest, project, or experience, or the way they report and reflect on such an experience in a planned submission to the journal.

***The three levels:*** The framework's three conceptual levels stand for three kinds of concepts to which we refer, in a top-down perspective, as *focus areas, subject areas,* and *keywords* (Fig. 1):

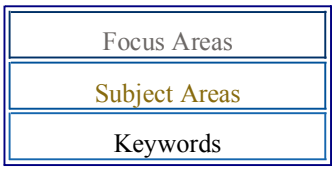



**Fig. 1:** A three-level concept hierarchy for research

*Focus areas* stand for broad topics of particular interest in which the journal aims to be strong and which it considers to be of key importance for reflecting about research practice. To put it differently, they mirror the core questions on which the journal aims to focus as a platform for discussing

research practice. Accordingly, the focus areas are defined by characteristic core questions along with a limited number of subject areas assigned to them.

*Subject areas* stand for more specific (but still fairly broad) issues that such discussion may raise, for example, concerning notions of research competence and training, or the institutional and societal contexts within which researchers work, or the basic methodological frameworks and paradigms they rely on. Subject areas are described by an open-ended number of keywords assigned to them. Not all subject areas need to be and currently are constitutive of focus areas; some may be assigned to several focus areas.

*Keywords,* finally, are basic terms for describing the nature and content of specific research projects or papers. There is no such thing as a definitive or complete list of keywords. The list of keywords assigned to each subject area will need to grow and to be continuously be adapted to the development of that subject area, its changing topics of central interest as well as its changing language. This is why we consider the concept hierarchy as merely an initial version, the beginning rather than the end of an effort that we hope will become a *collective effort* of all those interested in it and contributing to the journal.

In its initial Version 1.0, the concept hierarchy consists of 6 focus areas, 41 subject areas (of which 30 are constitutive of focus areas), and around 5,800 keywords. We refer to all these entries as *index terms,* a general term that offers itself as all three levels of concepts can be used for purposes of indexing articles.

***The network structure:*** Depending on whether one looks at the concept hierarchy from a bottom-up or top-down perspective, its entries lend themselves to searching for the "parent concepts" or "child concepts" that are related to some initial concept of interest. Say, you start with an interest in "research competence" as your initial concept. A related parent concept will then be "research education" and a related child concept will be "researcher's role & responsibility" (see Fig. 2).

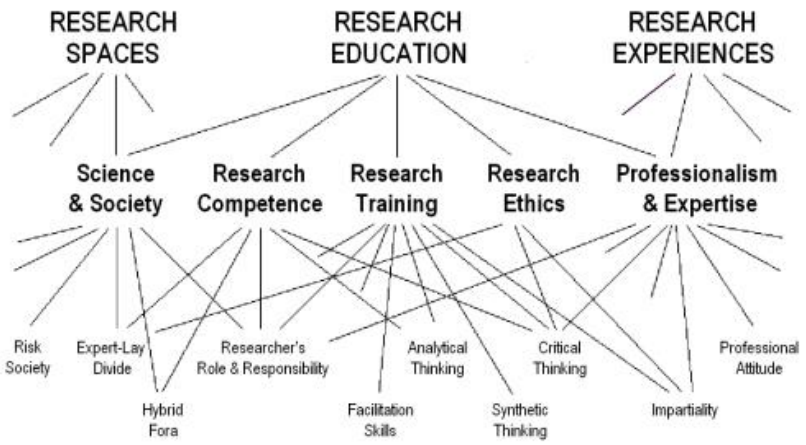



**Fig. 2:** Example of a concept family taken from the JRP concept hierarchy (Source: Ulrich and Dash, 2011, p. 6).

In this example our initial concept (research competence) belongs to the middle level, so we take it to stand for a subject area. Accordingly the mentioned parent concept (research education) represents a focus area and the mentioned child concept (researcher's role & responsibility) a keyword. Further, via related parent concepts or children concepts, one may also identify and explore relevant sister concepts (or siblings) of the initial concept (e.g., in this case, all the middle-level concepts shown in Fig. 2).

Concepts offered at the lower two levels may, in addition, stand for *cross-references* to other parent concepts (i.e., other subject areas or focus areas) where more lower-level concepts of related interest (siblings and/or children concepts, in the example**:** subject areas and assigned keywords) can be found. In the example, "researcher's role & responsibility" is a child concept not only of the subject area "research competence" but also of the subject area "professionalism & expertise." Accordingly the index terms entered under "research competence" include a cross-reference to the alternative subject area "professionalism & expertise." To distinguish such cross-references from other index terms, they are listed in italics. This simple feature enables users to systematically explore conceptual family relationships that go beyond the search for parent concepts, or for child concepts or siblings, and may include conceptual aunts and uncles, cousins, nieces or nephews as it were. The concept hierarchy thus allows being used as a conceptual network rather than a conceptual tree only; one may start anywhere and can then move up or down and laterally in all directions.

***Three main tools:*** So much for a brief introduction. Should I have raised your interest, I invite you to visit the *Journal of Research Practice,* which is available on-line in the open-access mode. You will find there three basic resources to consult:

1. an *Editorial* that explains the aims, construction, and intended uses of the JRP Concept Hierarchy (Ulrich and Dash, 2011);
2. an overview of the *JRP Focus Areas;* and
3. the initial list of the *JRP Subject Areas and Keywords* (with currently some 5,800 entries)

There is an entry page to the Concept Hierarchy in which you can find the above three links. Further, the overview of the JRP Focus Areas is also presented in the Editorial, and a compact version of it can be found in the JRP index or "Home" page, conforming to the aim of defining and communicating the journal's thematic priorities and profile.

***Application:*** The concept hierarchy has several basic uses and expected benefits for the journal and all its contributors and readers**:**

1. *Guidance to authors:* Starting with the focus areas and considering corresponding core questions and subject areas, potential authors can henceforth make a quick initial assessment whether a contribution they envisage may be relevant to JRP. Likewise, working their way through the concept hierarchy may help them in structuring an article well.
2. *Indexing system**:*** Index terms can be drawn from all three levels of the concept hierarchy. By means of a balanced selection of index terms from the three levels, submitting authors can systematically indicate to JRP editors and reviewers what they see as the paper's relevance to the journal; conversely, the editors and reviewers can better assess a paper's aims and relevance and thus also can better assist the authors.
3. *Visibility of journal content:* A systematic choice of index terms will do much to make sure a paper finds its target audience. It matters in this context that index terms drawn from the concept hierarchy will from now on be indicated not only in the published articles as they appear to readers (either in HTML or in PDF format) but will also be included in the paper's metadata, that is, that is, in the electronic data set that is not visible to readers but which search engines may use for identifying content. All potential readers, whether they are aware of

the *Journal of Research Practice* or not, will thus have a greater chance of finding, by means of a simple Internet search, material of interest to them in JRP. This will increase the visibility of published papers in the global research community. In addition, JRP readers will also be able to search the journal's content more systematically from within the journal's web site.

4. *Editorial tool:* The journal's editorial staff and reviewers can refer to the concept hierarchy for the purpose of thinking through any topic with regard to its potential relevance to JRP. Actual submissions can be assessed more easily as to their relevance. Connections of a paper's subject matter with other subjects that the journal aims to cover can be explored systematically. Options for developing a paper or for suggesting additional contributions may thus be identified. Finally, the journal's editors and staff can use the concept hierarchy, and particularly the table of the JRP Focus Areas, as a basis for taking well-considered staffing and policy decisions.

   For example, we intend to nominate new members of the editorial team so as to bring in specific qualifications regarding defined focus and/or subject areas. We may also design special issues so as to cover focus and subject areas that have remained underrepresented in the journal. Or, as a third and final example, we may periodically review the journal's aims and scope by redefining the JRP Focus Areas so as to keep pace with new insights and issues in the quest for good research practice.

5. *Increasing the over-all visibility and profile of JRP:* Indirectly, all the previous uses of the concept hierarchy should also strengthen the journal's visibility and profile. If potential authors can better assess how to prepare relevant submissions; if reviewers have a better basis for assessing a submission's relevance and potential; if the journal thus ultimately publishes articles that are focused on well-defined aspects of research practice; if the journal's editorial staff includes an increasing number of research scholars and practitioners with a well-defined and recognized profile in some of the journal's focus and subject areas; if due to the journal's thus-increased profile the quality of what it publishes grows further; and finally, if potential readers worldwide, thanks to systematic indexing, have higher chances to find material of interest to them in JRP – all these factors should in the end make sure that the journal's quality and reputation can grow, which in turn should allow it to secure the collaboration of qualified researchers and to generate a regular influx of high-quality submissions.

In addition to these expected benefits for the journal, it is an equally important aim of the concept hierarchy to serve the global research community**:**

6. *Offering the research community a general taxonomy of research practice:* Everyone is free to use the JRP concept hierarchy in whatever ways they find useful, regardless of whether or not the aim is contributing to the journal. Our hope is that many researchers will indeed find it useful to use the concept hierarchy as a framework for purposes such as
   – structuring a research project;
   – designing or assessing a research report; and
   – reviewing or revising a research paper.

   Perhaps some of the users will then also decide to contribute to the framework's further development, by communicating to the JRP editors omissions they observe or suggestions they may have for enriching the concept hierarchy and improving its usefulness. The aim must be that over time, the JRP concept hierarchy becomes a tool that its users own and continuously help to develop.

   I therefore invite you to feel free and adopt the JRP Focus Areas for your personal use, regardless of whether you plan to contribute to the journal. Use it as a tool for structuring and thinking through, within the context of your research work, the rich and complex issues of research that together make up "research practice."

***Outlook:*** To be sure, the concept hierarchy that is available today represents an initial version; as the Editorial introduction mentioned above makes quite clear, the task of developing the framework beyond its initial stage must be understood as a collaborative project for which we depend on interested users (see particularly Section 6 of the Editorial). Further, it is a never-ending task, as the framework will always need to be adapted periodically to the on-going development of research practices in different fields.

A second major development that we envisage is an interactive graphic interface for displaying and exploring the concept hierarchy. The electronic journal management platform that JRP's publisher employs does not currently allow us to implement such a feature. It remains a challenge for the mid- or longer-term future; for more discussion, see again the Editorial (Section 5).

In any case, an initial version is necessarily imperfect; what matters more than perfection for the present undertaking is that an impetus be given towards a richer understanding and practice of research. Today, it is still common to conceive of one's research and assess its quality in terms of theoretical and methodological issues only, rather than in terms of *both* research theory and research practice. The research community can only gain by deepening its interest in, and understanding of, the role of research practice as a force that shapes virtually all aspects of research – from the research interests and questions that motivate a research effort to the way the research context is understood; from the research methods and procedures that are chosen to the ways they are applied; and ultimately, from the findings and conclusions that are identified to the way they are interpreted, validated, communicated, and put into practice.

Making it a personal habit to question one's research proposals, projects, and products in terms of both research theory and practice is not a bad idea. It can mark a major step forward in a researcher's individual quest for research competence.

I wish you good research practice.

***Conclusion – two invitations*** Before you now move on to exploring the *Journal of Research Practice* (if you have not already done so, I suggest you begin with the *JRP Focus Areas*), allow me to end this *Bimonthly* with these two invitations**:**

1. ***An invitation to contribute to the Journal of Research Practice:*** The fact that you are reading this *Bimonthly* and perhaps even are a regular visitor of my home page may mean that you have interests similar to mine. If this is so, you may also be interested in topics that are of interest to JRP. I would like to invite you, therefore, to visit the journal's site and consider contributing to it. See the journal's page "Contributors" for a brief outline of the different ways in which you can contribute. To be sure, the best way to contribute is by submitting articles for publication (use the on-line upload facility to this end). Thanks to its quality-conscious but efficient and supportive peer-review system, JRP provides an excellent opportunity for sharing your research experiences and reflections with other researchers or professionals and to see your contributions published rather rapidly.

To avoid a possible misunderstanding, the sometimes rather philosophical character of my *Bimonthly* essays should not have you assume that only philosophically oriented papers will be considered for publication in JRP. Research philosophy is only one of the journal's focus areas, as it is only one among the many resources that can help researchers achieve good research practice. Accordingly, it is only one among many considerations that may help authors to achieve what really matters for successful submissions**:** their *self-reflective* nature. JRP is a vehicle not for *reporting* research results but for *reflecting* on the ways they are produced and used; on the underlying notions of "good" research practice; and on what may be learned from specific research experiences. These may consist in both completed research projects or research in progress. The experiences of novice researchers are also of interest; you need not be an accomplished researcher to publish in JRP, we also welcome contributions by diligent students of research. JRP is a journal for all people who want to *learn about research as a practice,* so try to contribute by sharing your personal quest for learning about research.

2. ***An invitation to participate in the next Lugano Summer School:*** In the second half of June, 2012, I will run the last planned event in the current series of *Doctoral and Postdoctoral Summer Schools on Soft and Critical Systems Thinkin*g, LSS 2012. These Summer Schools pursue aims similarly to those of my publications on reflective professional practice, but they focus more specifically on the use of soft and critical systems thinking as tools for improving the participants's research or professional practice. Soft systems thinking is represented by Peter Checkland's (e.g., 1981, 1985; Checkland and Holwell, 2001; Checkland and Poulter, 2006, 2010) work on *Soft Systems Methodology (SSM);* critical systems thinking is represented by my own work (e.g., 1983, 2000, 2003, 2006; Ulrich and Reynolds, 2010) on *Critical Systems Heuristics (CSH).*

   This is the first time that I allow myself to draw attention to an upcoming Lugano Summer School event in the *Bimonthly*, and it will remain the only time. The exception may be justified given that LSS 2012 offers the last opportunity ever to learn about SSM and CSH directly from their originators, in one and the same event. If this opportunity is of interest to you, please visit the LSS site (see particularly the sections "Announcements" and "Academic Program"). Also, in case you know of other people who might be interested, I am

grateful if you draw their attention to the LSS site. Thank you.

I sign off for this year with my very best wishes to all those who belong to the occasional or regular visitors of my site or who (if you are a first-time visitor) may become future faithful visitors. Thank you for your interest, and stay well. Merry Christmas and all the best for the year's end – see you in 2012.

Werner Ulrich

## References


Berger, P.L., and Luckmann, T. (1966). *The Social Construction of Reality: A Treatise in the Sociology of Knowledge.* Garden City, NY: Doubleday.

Checkland, P. (1981). *Systems Thinking, Systems Practice.* Chichester, UK: Wiley.

Checkland, P. (1985). From optimizing to learning: a development of systems thinking for the 1990s. *Journal of the Operational Research Society, 36,* No. 9, pp. 757-767.

Checkland, P., and Holwell, S. (2001). *Information, Systems, and Information Systems: Making Sense of the Field. Chichester.* UK: Wiley.

Checkland, P., and Poulter, J. (2006). *Learning for Action: A Short Definitive Account of Soft Systems Methodology and its use for Practitioners, Teachers and Students.* Chichester, UK: Wiley.

Checkland, P., and Poulter, J. (2010). Soft systems methodology. In M. Reynolds and S. Holwell (eds.), *Systems Approaches to Managing Change: A Practical Guide,* London: Springer, in association with The Open University, Milton Keynes, UK, pp. 191-242.

Popper, K.R. (1961). *The Logic of Scientific Discovery.* 2nd ed., New York: Basic Books (previously London: Hutchinson, 1959).

Popper, K.R. (1963). *Conjectures and Refutations: The Growth of Scientific Knowledge.* London: Routledge & Kegan Paul.

Popper, K.R. (1972). *Objective Knowledge: An Evolutionary Approach.* Oxford, UK: Clarendon.

Ulrich, W. (1983). *Critical Heuristics of Social Planning: A New Approach to Practical Philosophy.* Bern, Switzerland: Haupt (paperback reprint ed., Chichester, UK: Wiley, 1994).

Ulrich, W. (2000). Reflective practice in the civil society: the contribution of critically systemic thinking. *Reflective Practice, 1,* No. 2, pp. 247-268.
[HTML] http://www.tandf.co.uk/journals/titles/14623943.asp (restricted access)
[PDF] http://wulrich.com/downloads/ulrich_2000a.pdf (prepublication version).

Ulrich, W. (2003). Beyond methodology choice: critical systems thinking as critically systemic discourse. *Journal of the Operational Research Society, 54,* No. 4, 2003, pp. 325-342.
[HTML] http://www.palgrave-journals.com/jors/journal/v54/n4/ (restricted access)

Ulrich, W. (2006). Critical pragmatism: a new approach to professional and business ethics. In L. Zsolnai (ed.), *Interdisciplinary Yearbook of Business Ethics, Vol. I,* Oxford, UK, and Bern, Switzerland: Peter Lang Academic Publishers, pp. 53-85.

Ulrich, W., and Dash, D.P. (2011). Introducing a concept hierarchy for the Journal of Research Practice. *Journal of Research Practice, 7,* No. 2, Article E2 (16 November 2011).
[HTML] http://jrp.icaap.org/index.php/jrp/article/view/279

Ulrich, W., and Reynolds, M. (2010). Critical systems heuristics. In M. Reynolds and S. Holwell (eds.), *Systems Approaches to Managing Change: A Practical Guide,* London: Springer, in association with The Open University, Milton Keynes, UK, pp. 243-292.



November 2011

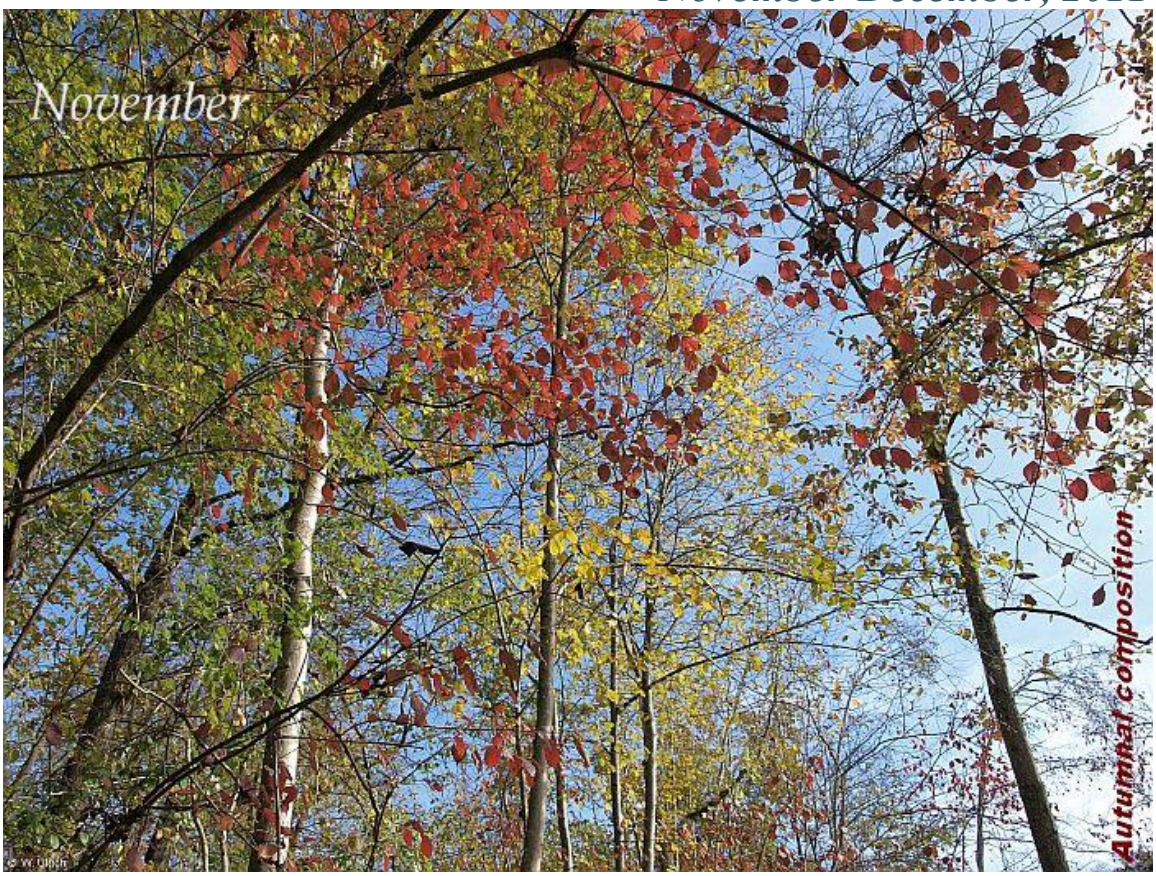
| Su | Mo | Tu | We | Th | Fr | Sa |
|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 |
| 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| 13 | 14 | 15 | 16 | 17 | 18 | 19 |
| 20 | 21 | 22 | 23 | 24 | 25 | 26 |
| 27 | 28 | 29 | 30 | | | |

**Picture data** Digital photograph taken on 29 October 2009 around 7 p.m. ISO 100, exposure mode aperture priority; aperture f/5.0, exposure time 1/250 seconds, exposure bias 0; focal length 14 mm (equivalent to 28 mm with a conventional 35 mm camera); metering mode multi-segment, contrast soft, saturation low, sharpness soft. Original resolution 3648 x 2736 pixels; current resolution 700 x 525 pixels, compressed to 197 KB.

December 2011

| Su | Mo | Tu | We | Th | Fr | Sa |
|---|---|---|---|---|---|---|
| | | | | 1 | 2 | 3 |
| 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 11 | 12 | 13 | 14 | 15 | 16 | 17 |
| 18 | 19 | 20 | 21 | 22 | 23 | 24 |
| 25 | 26 | 27 | 28 | 29 | 30 | 31 |


## *November-December, 2011*




*Autumnal composition: a taxonomy of research practice*

„The research community can only gain by deepening its interest in, and understanding of, the role of research practice as a force that shapes virtually all aspects of research."

(From this *Bimonthly* reflection)

Previous Picture Next Picture

***Personal notes:***

Notepad for capturing personal thoughts »

Write down your thoughts before you forget them!
Just be sure to copy them elsewhere before leaving this page.

Last updated 18 Feb 2012 (first published 1 Dec 2011)
http://wulrich.com/bimonthly_november2011.html