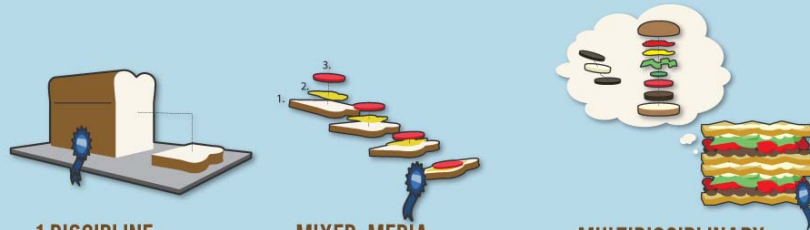
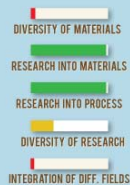


Tverrfaglighet og forskning ved Vestlandsforskning

DEFINE YOUR DISCIPLINE EXPLANATION THROUGH FOOD+



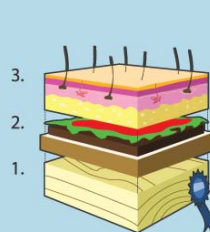
1 DISCIPLINE



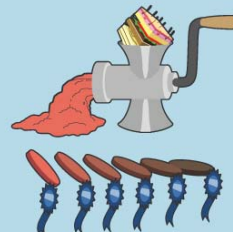
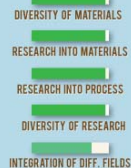
MIXED-MEDIA



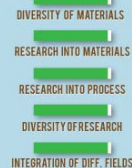
MULTIDISCIPLINARY



INTERDISCIPLINARY



TRANSDISCIPLINARY



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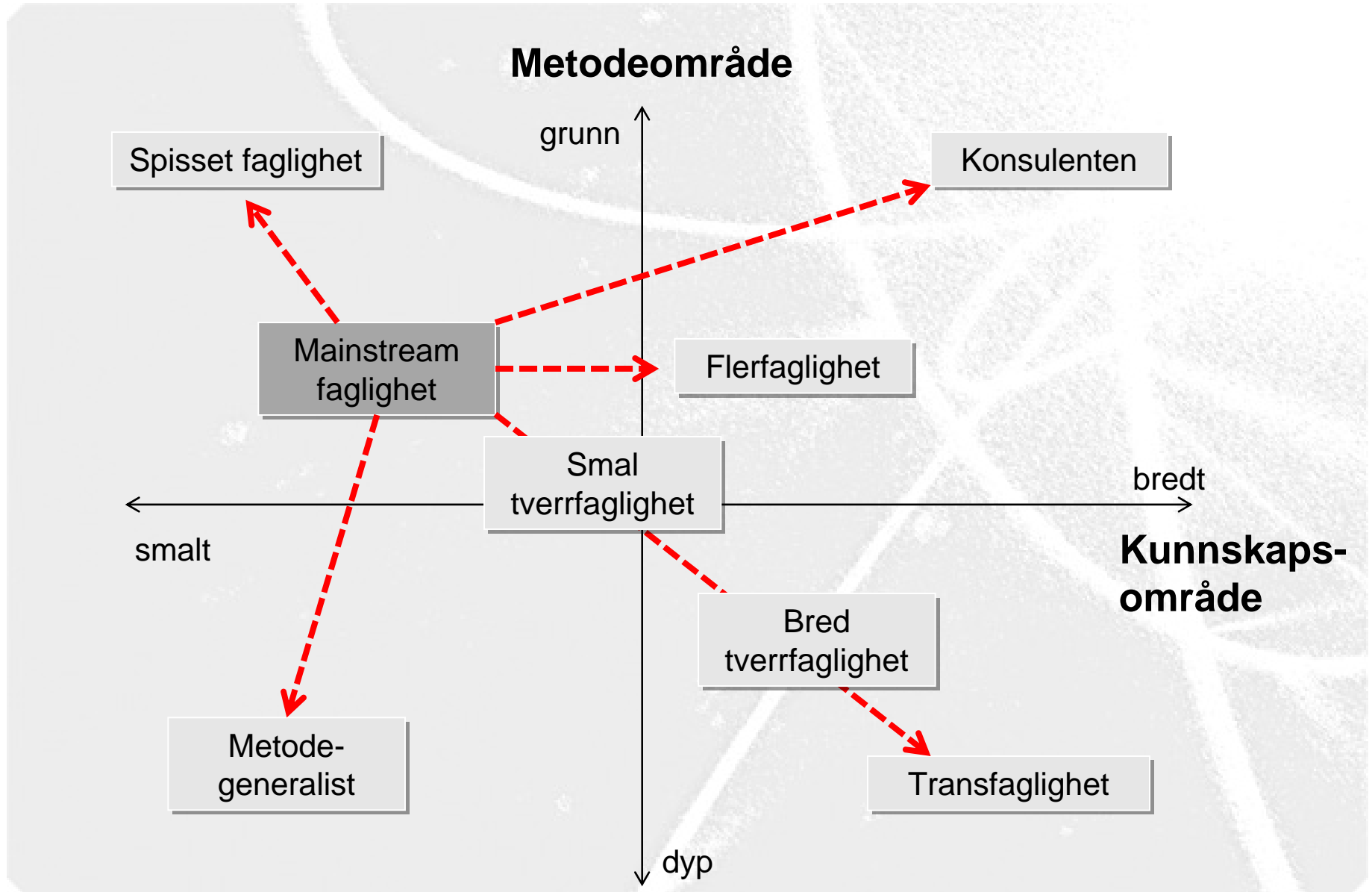
Innlegg på seminaret «Hva er tverrfaglighet? Muligheter og utfordringer ved tverrfaglighet i forskning og undervisning»

Sogndal 6.3.2014

Carlo Aall
Forskningsleiar Vestlandsforskning

To akser for å bestemme «type faglighet»

- **Kvantitative og kvalitative forskjeller**
 - Kvantitativt (eks økning i antall disipliner og/eller metoder)
 - Kvalitativt (eks legge til nye typer kunnskaper og nye typer praksiser i forskningen)
- **Kunnskapsområde**
 - Brede på disipliner
 - Antall disipliner
 - Natur/teknologi versus samfunn/humaniora vitenskaper
 - Kodifisert / vitenskapelig kunnskap versus ikke-kodifisert / legfolk kunnskap
- **Metodeområde**
 - Antall metoder
 - Kvantitativ versus kvalitativ metode
 - Kvantitativ versus kvalitativ forskningsdesign
 - Grad av legfolk involvering i valg av design og gjennomføring av forskningsprosessen
 - Normal versus post-normal science



Øversettelse av nøkkelbegreper

Flerfaglig = Multidisciplinarity

Tverrfaglig = Interdisciplinarity

Transfaglig = Transdisciplinarity

Definisjoner (1)

Monodisciplinary research is defined by and takes place within one discipline and within a dominating paradigm of that particular discipline. It is characterised by both ontological and epistemological homogeneity, but not necessarily methodological homogeneity.

In **cross-disciplinary research** one discipline or its object is illuminated from the perspective of another. There is no requirement of either ontological or epistemological homogeneity. **Cross-disciplinarity** may take place between disciplines belonging to the same large group of science, e.g., social sciences. However, it may also cross boundaries between these groups, for instance, combining a discipline within social sciences with a discipline in humanities.

Problem-oriented research frequently involves a multitude of disciplines, and is characterised by ontological, epistemological and methodological heterogeneity. The most limited form is **multidisciplinary research**. In order to study an object that transcends disciplinary boundaries, this form of research draws on several disciplines without challenging the disciplinary boundaries and with the major part of research activities carried out within the traditions and paradigms of each discipline.

Interdisciplinary research shares the three forms of heterogeneity, but is based on an **integration** of a number of disciplines into a coherent research cluster providing a new framework for understanding and acting. The disciplinary interaction takes place in all phases in the research process; framing of research issues, execution of research, and the formulation and analyses of results. Interdisciplinary research tends to challenge both the disciplinary boundaries and the dominating paradigms within the several disciplines participating. Interdisciplinary research within popular divides such as the 'hard' or the 'soft' sciences is called moderate interdisciplinarity, whereas interdisciplinarity across the traditional divides is called radical interdisciplinarity.

Definisjoner (2)

Sometimes the adjective **integrative** is used instead of inter-disciplinary as a synonym. However, integrative is also used to describe a form of science that is not just interdisciplinary but in addition bridges and brings together levels of analyses, cultural contexts of research and researchers, and various forms of knowledge and learning (including traditional, tacit, informal knowledge).

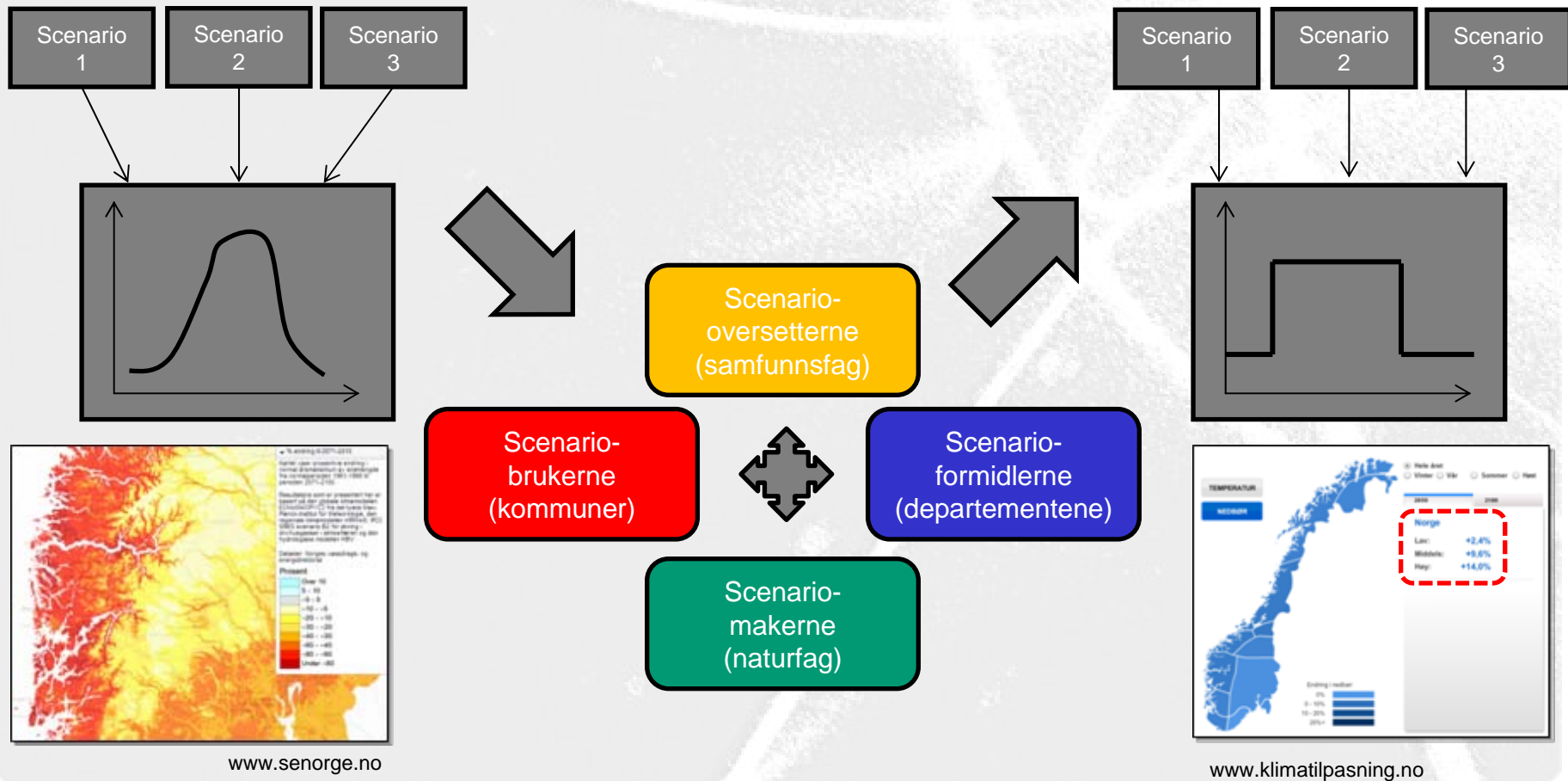
The concept of **transdisciplinarity** is used to imply inclusion of other forms of knowledge than scientific knowledge in the research process; in a **moderate form** with lay people taking part in the research process, or in a more **radical form** with lay knowledge given the same status and importance in research. This implies erasing the boundaries between science and society at large, also as regards to the knowledge produced. In this most **radical form** the concept of **post-disciplinarity** is applied. It must be noted that in **transdisciplinary science** there are **post-normal** and **normal** science conceptions. While **normal science** maintains the desire or aspiration of science to approximate truth, **post-normal science** dispenses with this aspiration given that inquiries may be dictated by urgency, high stakes and solutions required despite uncertainty. In such situations extended peer-review drawing on non-scientific stakeholders may become necessary.

Translational research denotes the value chain of research from conceptualisation, through empirical and archival work to generalisation and model building through to end-use and is usually supported by institutional support structures and funding models. While this form of funding and support is widespread in medical science it is not yet fully endorsed by global change research communities. In the theory of science literature, this concept is referred to as **transactional research** – which only partly relates to the long tradition of **action research**.

Historier om vilkår for tverrfaglig forskning fra miljøforskninga ved Vestlandsforskning

- **Vår egen retorikk om tverrfaglighet på de tre nivåene forsker, prosjekt og institusjon**
- **Jakten på tverrfaglige universiteter – med eksempel på PhDer ved Vestlandsforskning**
- **Endringer i framstilling av klimascenarier – etter innspill fra brukere og fagområder utenom klimaforskningen**
- **Evaluerings av norsk klimaforskning – med eksempel på omtale Vestlandsforskning**

Endring i framstilling av resultatene fra klimascenarier



Evaluering av norsk klimaforskning

- “A minority embrace *interdisciplinary* work within the social sciences as well as across to natural sciences (CICERO) or with other engineers and technology experts (Western Norway Research Institute; TIO)».
- “Both WNRI and CICERO attempt transdisciplinary work, going sometimes as far as action research, i.e. a reflective process of solving collective problems using participatory research methods».



Spørsmål til gruppediskusjonen

- **Hvor er vi som fagpersoner / faggruppe / fagområde / institusjon plassert i dag, og hvor ønsker vi å være?**
 - Plasser inn i figuren vist over
- **Hvilke vitenskapsteoretiske posisjoner arbeider vi innenfor, og stimulerer eller hindrer disse tverrfaglighet?**
 - Er det nødvendig med et felles vitenskapsteoretisk grunnsyn i en faggruppe for å kunne få til full kunnskapsintegrering?
- **Er tverrfaglighet alltid et mål?**
 - Er det forskjell i pragmatiske, strategiske, faglige og normative begrunnelser for å ønske større eller mindre grad av tverrfaglighet? Hvilke problemstillinger og/eller tema egner seg for tverrfaglighet?
- **Er tverrfaglighet mulig å gjennomføre i praksis?**
 - Hva er barrierene og hvordan møte disse?
- **Er tverrfaglighet et mulig fortrinn for VF og HSF som evt bør styrkes og markedsføres?**
 - I tilfelle ja; hvorfor og hvordan?