The Periodic Table of Evaluation

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Background: Evaluation is a vast field of designs and methods in continuous development. The numerous parameters and choices associated with different methodological options can be difficult to fully understand without deep study and desk review.

Purpose: The motivation for the Periodic Table of Evaluation was to create a one-pager visual to catalogue methodological options and parameters involved in an evaluation design.

Setting: Not applicable.

Intervention: Not applicable.

Research Design: Not applicable.

Data Collection and Analysis: Not applicable.

Findings: Not applicable.

Keywords: *evaluation; data visualization; evaluation methodology; paradigms; purposes; objectives; criteria; methods; designs; catalogue.*

Background and Motivation

The first time I came across infographics as a language was on Twitter (now X) in 2011. At the time, I was looking into infographics on various topics, including the evolution of rock music genres, mapping of the main consumer brands and the companies who own them, and thirteen reasons why your brain likes infographics. Ever since, I have been fascinated (read "slightly obsessed") with learning, using, and sharing this visual language that resonates so much with me and with the way I understand and learn. I've played with visuals in many dimensions of my life (creating visual CVs, transforming food recipes into visual representations, and visualizing the rules of a board game) and of course in my work.

When I started my MA in evaluation in 2012, I gave myself the challenge of doing all the homework in a visual way. And so started my work explaining evaluation visually (https://lovingclarity.com/portfolio/). Moreover, thanks to the master's program, I became aware that the main source of evaluation's rigor is the centrality of the better-adapted-to-each-context methodological choice. Reflecting on the methodological choices in evaluation made me wonder if I really knew the whole range of available tools (and methods, approaches, you name it) in evaluation. And that idea (could I list a catalogue of evaluation choices?) stayed in my head.

This inspired sometime later the first version of the Catalogue of Evaluation Choices, where I listed the main options classified by nine categories (see Figure 1):

1. Paradigms (commissioner's). I started with paradigms held by evaluation commissioners, meaning the way they understand the world and how they think they can apprehend it, because it shocks me how important, yet unspoken, paradigms are in evaluation practice.

2. Focus. Then I added Focus, in the sense of a lens—the glasses through which you can look at reality and make sense of the world.

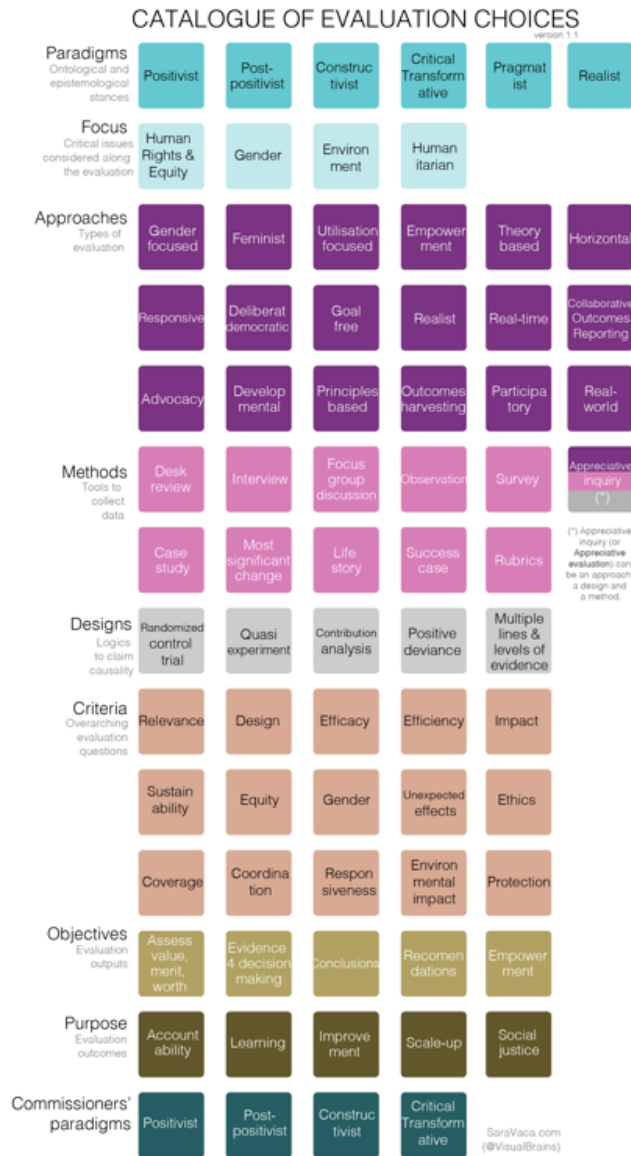3. Approaches. Thirdly, I listed the approaches or different things evaluations can focus on or particular ways of doing evaluation (if I had to redo the catalogue now—or perhaps for the next version—I would merge this category with Focus).

4. Methods. It was mandatory to list the different methods used for collecting data (I didn't think of data analysis methods at that time).

5. Logics and rationales (designs). Next, I listed the different logics or rationales I have heard about to evaluate impact (a set of options that makes me wonder why we are not as explicit when evaluating other criteria).

6. Evaluation questions (criteria). Despite the unanimity I see in evaluation questions (mostly guided by the DAC criteria: relevance, coherence, effectiveness, efficiency, impact and sustainability), a key parameter that guides the evaluation is the criteria.

7. Objectives. Then I realized that evaluations could have a limited number of objectives (what they want to achieve as results).

8. Purposes. … and that evaluations are conducted with a limited number of potential purposes (why they are motivated and commissioned).

9. Paradigms (evaluator's). Finally, I realized that *my* paradigms (i.e., the evaluator's and their team's) were as important as the commissioners', so I included them too.

Once I had the list of evaluation choices, I tried to visualize them by placing each choice in a square colored by category (I don't like lists). Technically, it became a special type of matrix, where the type of choice was given by its position, reinforced by colors. The chosen palette had no particular meaning beyond trying to look attractive and within a certain aesthetic harmony.

I published the visual on my blog, where I also post my other visual ruminations, and people who saw it seemed to like it:

Figure 1. Catalogue of Evaluation Choices (First Version)

CATALOGUE OF EVALUATION CHOICES
version 1.1

Paradigms Ontological and epistemological stances	Positivist	Post-positivist	Constructivist	Critical Transformative	Pragmatist	Realist
Focus Critical issues considered along the evaluation	Human Rights & Equity	Gender	Environment	Humanitarian		
Approaches Types of evaluation	Gender focused	Feminist	Utilisation focused	Empowerment	Theory based	Horizontal
	Responsive	Deliberat democratic	Goal free	Realist	Real-time	Collaborative Outcomes Reporting
	Advocacy	Developmental	Principles based	Outcomes harvesting	Participatory	Real-world
Methods Tools to collect data	Desk review	Interview	Focus group discussion	Observation	Survey	Appreciative inquiry (*)
	Case study	Most significant change	Life story	Success case	Rubrics	(*) Appreciative inquiry (or **Appreciative evaluation**) can be an approach, a design and a method.
Designs Logics to claim causality	Randomized control trial	Quasi experiment	Contribution analysis	Positive deviance	Multiple lines & levels of evidence	
Criteria Overarching evaluation questions	Relevance	Design	Efficacy	Efficiency	Impact	
	Sustainability	Equity	Gender	Unexpected effects	Ethics	
	Coverage	Coordination	Responsiveness	Environmental impact	Protection	
Objectives Evaluation outputs	Assess value, merit, worth	Evidence 4 decision making	Conclusions	Recommendations	Empowerment	
Purpose Evaluation outcomes	Accountability	Learning	Improvement	Scale-up	Social justice	
Commissioners' paradigms	Positivist	Post-positivist	Constructivist	Critical Transformative	SaraVaca.com (@VisualBrains)	

Some weeks later, I saw a periodic table of dogs or something similar. There are many funny versions: periodic tables of vegetables, cocktails, tables, or even swear words. And I decided to revise the Catalogue of Evaluation Choices into what would soon become the first version of a Periodic Table.

Figure 2. Catalogue of Evaluation Choices (Second Version)
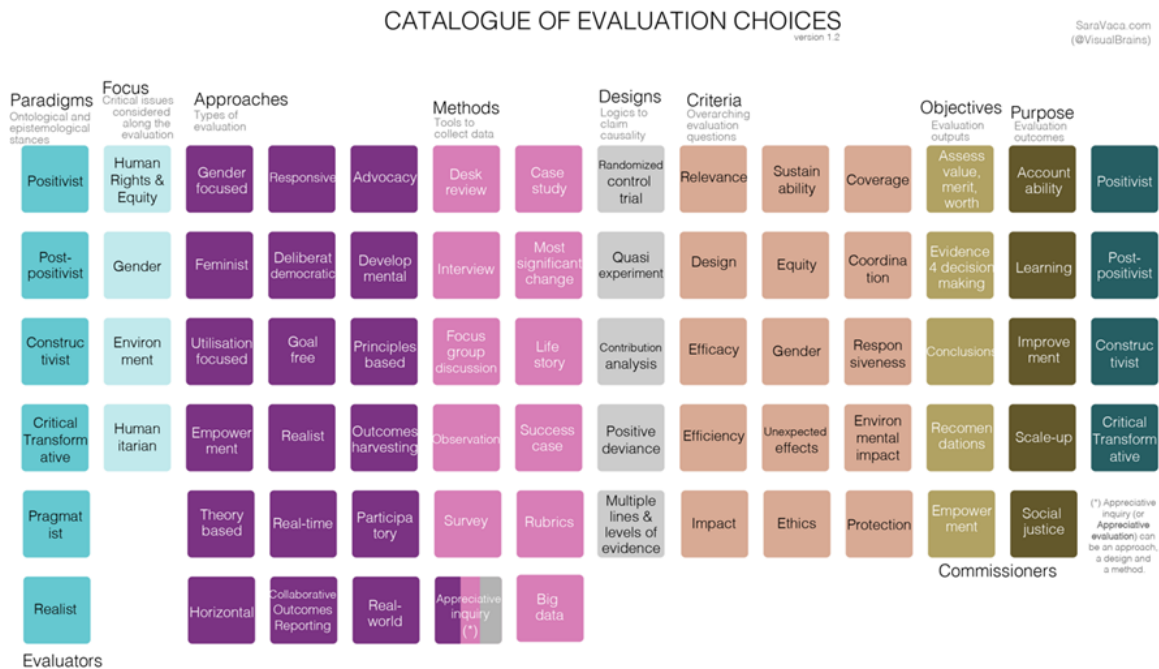
Once the information was in this format, I realized that the paradigms held by evaluators and commissioners could be considered the same category, so they could (or perhaps even should) have the same color. Also, I arranged the boxes slightly differently to make the visual resemble the periodic table of elements. Figure 3 presents the first version of the Periodic Table of Evaluation.

Structure and Content

The Periodic Table of Evaluation categorizes evaluation choices according to:

1. Potential paradigms that evaluators and commissioners bring as identities and as ways of understanding the world, the program, and the evaluation: positivist, post-positivist, constructivist, critical/transformative, pragmatist, and realist are examples of paradigms.

2. Potential purposes of evaluation: accountability, learning, improvement, scale-up, and social justice.

3. Potential objectives of evaluations: assessment of value, merit, and worth of programs, evidence for decision-making, conclusions, recommendations, and empowerment.

4. Potential criteria or groups of evaluation questions: relevance, coverage, equity, sustainability, coordination, responsiveness, environmental impact, protection, design, efficacy, efficiency, impact, gender, unexpected results, and ethics.

5. Potential approaches or lenses through which to look at the evaluation: gender-focused, feminist, utilization-focused, empowerment, theory-based, horizontal, deliberative democratic, goal-free, realist, real-time, collaborative outcomes reporting, developmental, principles-based, outcomes harvesting, participatory, real-world, advocacy, and appreciative inquiry (which can also be viewed as a design or a method).

6. Potential designs, usually meant as the rational to use for evaluating impact criterium (although each criterion has its own design, also not often discussed): experimental, quasi-experimental, contribution analysis, positive deviance, and multiple lines and levels of evidence.

7. Methods: interview, focus group discussion, observation, most significant change, life story, success case, big data, desk review, rubrics, survey, and case study.

8. Framework (other important central or surrounding issues involved in evaluation): What is evaluation, history of evaluation, ethics and values, credible evidence, role of the evaluation, role of the evaluator, participation, social justice, unintended outcomes, complexity, systems thinking, and demand and supply.

As mentioned earlier in this article, colors help to map the categories. The position of each choice within a category is defined to make the visual resemble a periodic table but has no real meaning.

Figure 3. Periodic Table of Evaluation (First Version)
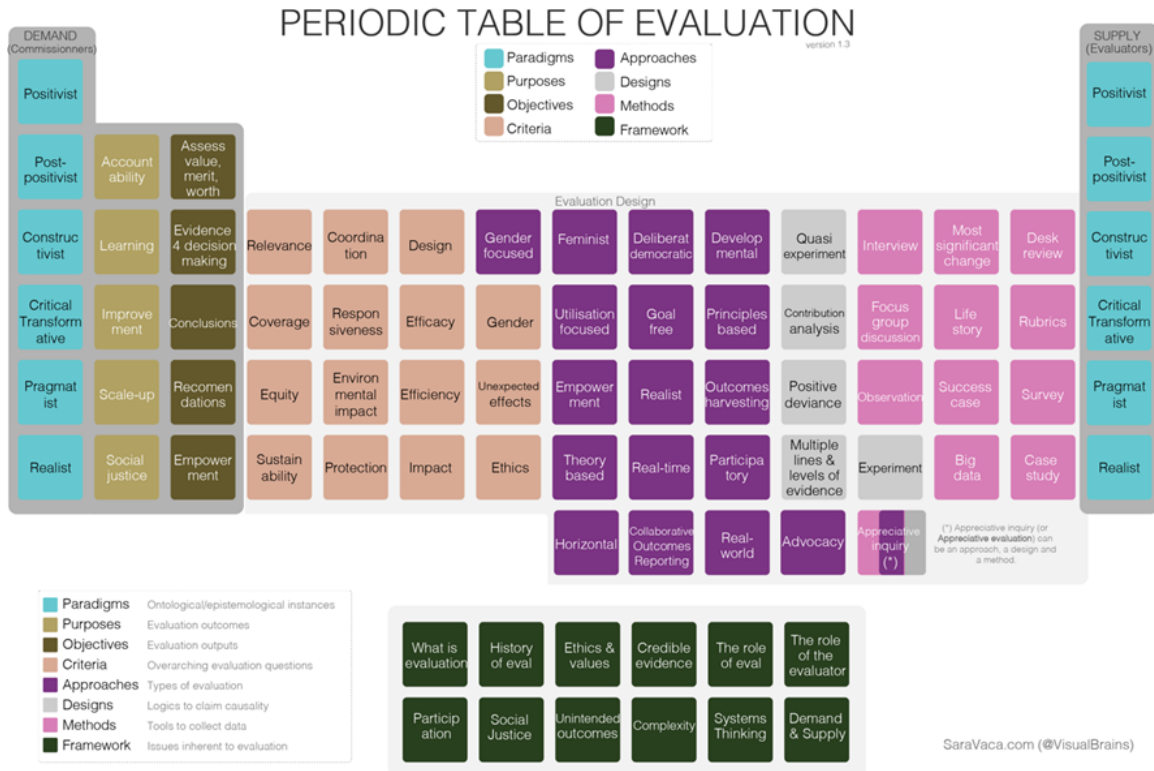
This visual, initially shared on my blog and later presented as a poster at the 2018 European Evaluation Society conference, was well received, and to this day I receive feedback from fellow evaluators using it for teaching and conferences (as just one example, I have recently granted permission for it to be translated into Japanese).

Intended Purpose and Use

The initial intended use of the Periodic Table of Evaluation was to serve as a "cheat sheet" for evaluators: a quick overview of all potential choices for those studying evaluation, elaborating terms of reference (ToR), working on an evaluation design. It was also intended to serve as a reminder to myself of all the methods, tools, approaches, and so forth, that I would need to master (or at least know about) in order to use each of them when an opportunity that would benefit from it arrived. Ultimately, the visual can also be used to depict the parts of the evaluation design that are up for negotiation between commissioners and decision-makers. Speaking directly to this type of use, the following version of the table depicts what is usually up for discussion in designing a commissioned evaluation (color-coded in orange).

Figure 4. Periodic Table of Evaluation (Third Version)
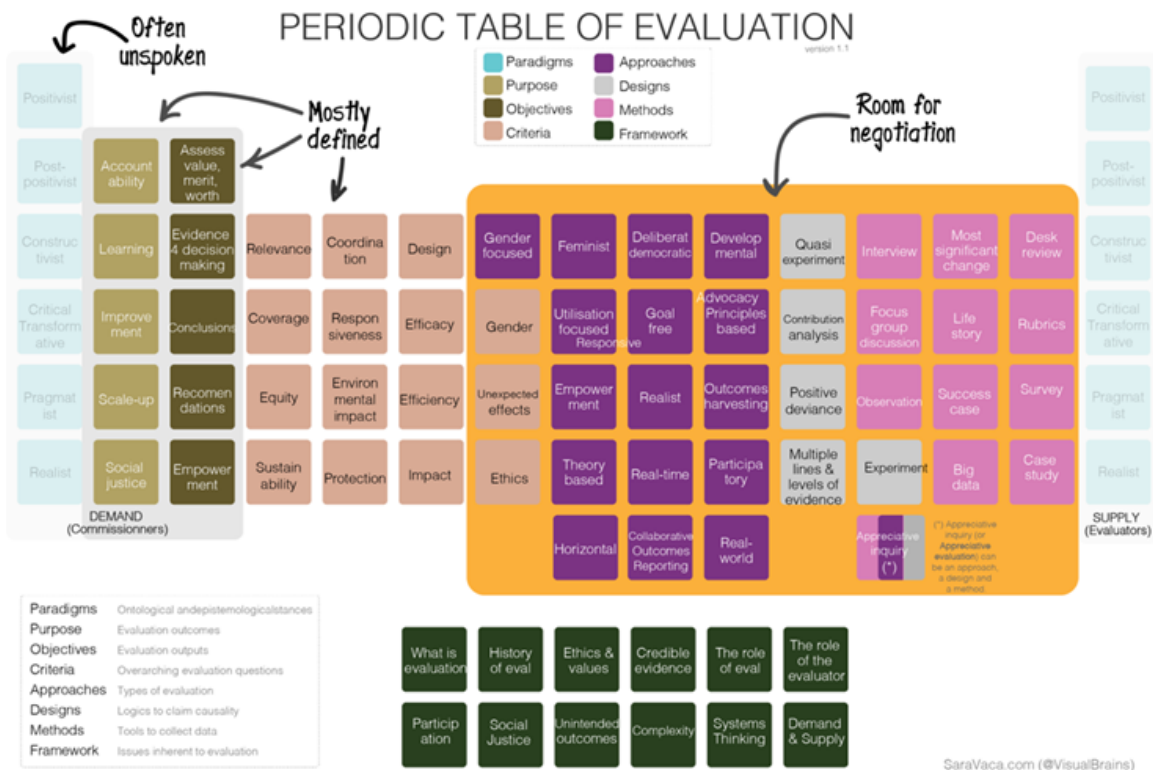
I realized that during evaluation design discussions ("negotiations") between evaluators and commissioners, some categories (the purpose, the objectives, and even the criteria) are defined by the evaluation needs themselves, while the influence evaluators or other actors can have in the design is limited to approaches and methods. I often suggest gender equity and human rights as criteria to add when the ToR does not include them, for example.

Other elements, such as compatible commissioner and evaluator paradigms, are paramount for successful negotiations. For example, if commissioners operate within a transformative activist paradigm and evaluators see reality in a positivist way (or vice versa), it will be challenging for the evaluators and commissioners to agree on an evaluation design. Despite their central role and importance in designing an evaluation, paradigms are hardly ever mentioned in the ToR or the evaluation process or products, much less openly discussed. I want to bring attention to this issue as a reminder of our limited self-awareness about our inherent bias.

Benefits and Limitations

I am proud of the Periodic Table of Evaluation because it uses a familiar framework to summarize many of the diverse and wide parameters involved in the science and art of designing an evaluation. I know some people have printed it in big format and use it as a poster. Others have used it for teaching evaluation design. However, the main benefit I see is to have a quick overview of options for those defining terms of reference for evaluations or crafting evaluation designs, or for students who approach the discipline in an academic fashion. Having a complete enough framework that summarizes the many diverse options can provide confidence that design choices have been thoroughly reflected on and give evaluators the opportunity to select the most relevant ones for each evaluation context instead of choosing from a limited number of "known" options.

The Periodic Table of Evaluation also has limitations. The first one is that it is difficult (perhaps impossible) to make the table exhaustive. Though the repertoire represented in the table will never be exhaustive, I would like to elaborate on the content in a second version, provide a more complete set of choices within each category, and

perhaps even include other categories of choices (such as sampling options). For now, the current version already covers many of the main possibilities within the evaluation discipline.

The second limitation is that making the list of evaluation choices available is a first step, but it doesn't include the details that would help users decide which possibilities to include in a given evaluation design. I am working on explaining the differences and uses of each choice within each category, creating a series of infographics that summarize each group and, in some cases (e.g., in the Approaches category), an infographic for each choice within each category.

Concluding Thoughts

Ultimately, what I would love to see is a visual revolution.

I would like to see papers, books, and evaluation reports include good quality summary visuals that grasp the key messages for people who are busy and for people like me who struggle getting meaning from long texts.

I will continue to visually explain (to myself first and at the same time to others) evaluation and related content, and to publish again many of the visuals I have created over the years and new ones to come, as it helps me to learn and to become a better evaluator and to share this passion of mine with others—and also because I have so much fun doing so ☺.

Comments/ideas for a future iteration of the Table are most welcome (sara@lovingvisuals.com).