

Whatever Happened to "The Technology of Foolishness"? Does It Have Any Potential Today?

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A reception study: What happened to "The Technology of Foolishness"? Is it dead? Should it be resurrected? (file: final total 2, 30.6.19, 11,034 words, tidligere submission 14,072 words, - 22%)

In 1971, the organization theorist James March published "The Technology of Foolishness" (ToF). The essay is a child of ideas emerging in the late 1960s in California. ToF argues that wise decision-making should not only focus on pursuing given goals, as is often done, but also on finding new and better goals. The present article traces the reception of ToF in the scholarly literature. It has been much praised, but little used relative to other of March's contributions. The reception has often been superficial or ritual as for other classic gurus. But in one area of contemporary importance, namely studies of entrepreneurship, ToF has had a substantial impact. In other areas it has potential for research. One of these are here referred to as intelligent holes in stupid organizations and concerns how to achieve (or perhaps just maintain) free thinking and non-rigid behavior in organizations and in society. Another one regards hypocrisy – how to handle truth and lies in and around modern organizations and political systems.

INTRODUCTION

In 1971 an essay titled "The Technology of Foolishness" appeared in *Civiløkonomen*, a journal published by the Association of Danish Business School Graduates (March, 1971). The essay was eight pages long, contained no references and was written by professor James G. March (1928-2018).¹ He started in 1971 a tour as guest researcher at different Scandinavian business schools and universities. He arrived in Scandinavia after serving as Dean of the School of Social Science at the newly founded University of California, Irvine for six years (1964-69) and before taking up a position at Stanford University as professor of political science and higher education.

The intellectual luggage that March carried with him to Scandinavia contained several drafts of scholarly work which have later become classics in the field of organization theory such as "A Garbage Can Model of Organizational Choice" (Cohen, March, & Olsen, 1972), "The Uncertainty of the Past: Organizational Learning under Ambiguity" (March & Olsen, 1975) and "The Technology of Foolishness". While the first two papers have acquired central positions in the literature on organizational decision making and organizational learning respectively then ToF has lived a less illustrious life. But it has also been called "seminal" (Izak, 2013, p. 111), "berühmt" (=famous) (Veken, 2016, p. 341), "a celebrated elegy to playfulness" (Ibarra, 2015, p. 4), "fascinating" (Argyris, 1976, p. 363), "illuminating" (Copeland, 1988, p. 171), and "classic" (Griffith & Northcraft, 1993, p. 466).

This article focuses on the "seminal" perspective. How has ToF been received in the scholarly literature? What has it been and could be used for?

More specifically the article briefly describes the context in which ToF was formulated. Second it provides an account of ToF and its elements. Third it traces quantitatively how often, when and where ToF has been cited in the research literature compared to selected other concepts. Fourth, the results from the quantitative analysis, where the use of ToF goes beyond a short mention, are read closer and the results presented. Fifth, a description is given of the criticism of ToF that has been found in the reception literature, and of what elements of ToF have been used (and misused) by others. The final section speculates on ToF's potential today.

¹ See https://en.wikipedia.org/wiki/James_G._March (accessed 20.6.2019) and two in memoriam articles (Nils Brunsson, 2019; Ping Li, 2018).

THE INTELLECTUAL AND SOCIETAL CONTEXT WHERE TOF WAS BORN

The ToF essay is a child of the late 1960s, a time of change and new ideas. The idea of knowledge and science – from the Greek philosophers via the Enlightenment writers – had been victorious, and the church and other worldly authorities had lost their influence. An enormous development of the world's productive forces had been lifting most people in the western world out of immediate poverty and to some degree out of ignorance. But a new generation started to question this development. They talked about flower power, sang and behaved differently, demonstrated, smoked pot, and wanted societal changes.

One focus for the protests was the Vietnam War. The war could not be won. A shocking experience for the superpower. In 1973 it had to withdraw its troops. By 1975 Saigon "fell" and employees and Vietnamese refugees trapped in the US Embassy in Saigon had to be airlifted out of the embassy by helicopter. These helicopters had later to be dumped in the sea from the carriers to make place for more helicopters landing. A graphic illustration of the breakdown of normality to those who watched the video-clips of this.

But the young also protested the new corporate and state monsters and their thinking that had supplanted the old powers. The Secretary of Defense at the time, Robert McNamara, who had a brilliant business career behind him, was seen as responsible for the war to the degree that it was sometimes called "McNamara's War." He was "[i]dentified in the public mind as a cold, calculating "numbers cruncher"," wrote the New York Times later, and his personal appearance with slick hair, controlled behavior and rimless "intellectual" glasses was a total contrast to the long-haired protesters.²

And where did these protests happen? Mostly in California. The University of California at Berkley (UCB) near San Francisco was a main center for the protests. And where was March at that time? He was Dean of Social Science at the University of California but in another of the UC's campuses, at Irvine (UCI), 700 km to the south. After his Scandinavian visit, he came to Stanford University at Palo Alto in the so-called Silicon Valley, less than an hour's drive from UCB.

A professor from the world's leading industrial and military power, from one of its wealthiest and most progressive states (California), from some of its most renowned universities suggested in a super short essay that the preferred methods of science, rationality, management and planning had severe limitations. The protesting students knew that. But now this professor brought it into the finer academic world.

March was never a political activist and, in his writings stayed far away from political issues and conclusions. But he introduced and legitimized a new line of thinking that can be seen to reflect the context he worked in.

It is also part of the context that March during his term as Dean at UCI had experimented with new ways of organizing scholarly work. He had abandoned the traditional academic departments to be found in most other universities and had implemented a policy, which stated that "each member of faculty would teach one course a year with a colleague in a discipline the faculty member knew nothing about (Lave, 2009)" (Kavanagh, 2012, p. 35).

² <https://www.nytimes.com/1995/04/09/world/mcnamara-recalls-and-regrets-vietnam.html>, accessed 21.2.19.

A CLOSER LOOK AT THE TOF ESSAY AND ITS ELEMENTS

The text used here is from 1976, but identical to the 1971 version. In a later article by March (2006), he retells the ToF idea and adds a few more angles and many more references.

March begins (in the 1976 article) with a description of the "*rational model of choice*". It means that one compares alternative actions with goals and choose the most attractive in relation to these goals. This idea implies, according to March, three doubtful assumptions (discussed in his earlier works on decision making):

- *Preexistence of goals* prior to the decision.
- That goals, if there are several, as there usually are, are *consistent*.
- *Rationality* when choosing.

But goals are not always pre-existing and they often change over time. They depend on earlier decisions, so it is not only goals that form decisions, but also the other way around. Next, goals are seldom consistent.

Rationality in choosing excludes intuition, tradition and faith. In the 2006 article March adds "stars and gods" (p. 201), "tradition, rule, routine, or revelation" (p. 203) and "habit, custom, identity, intuition, or emotion" to the non-rational methods.

In the remaining parts of the ToF essay March provides suggestions for a *goal discovery* process. How can we make decisions without relying on existing goals in order to perhaps learn new goals? His list of what we can do (with a little editing) is:

We can *imitate* the behavior of "interesting persons". But "we need a better theory" (in this part of the ToF essay he often uses this expression) of who we should imitate.

We can treat *goals as hypotheses* to be tested through decisions, not only the other way around. March suggests that we have *two models of learning*: One for *adults* and one for *children*. With adults ("or economists" as he teasingly adds) we try to achieve existing goals. For children, we try to make them "do things that are inconsistent with his present goals because we know (or believe) that he can only develop into an interesting person" by getting or at least trying new goals. In line with this, March also suggests *coercion* of actors to let them get experience outside of what they think they need and would try of their own accord. But (again) we need a theory about the circumstances in which coercion might lead to interesting goals.

We can *rationalize* our actions. It is not necessarily a way to evade morality but perhaps a test of new goals. We can also use *hypocrisy* to protect experiments with new values and goals. In the conclusion of the essay he writes in the same vein that *social accountability should be reevaluated* and not only be seen in relation to old goals but also to possible future preferences.

Evaluation should not only be made in relation to old goals, but also in relation to what we now see as important. It should be part of the goal discovery process.

We can use *playfulness* meaning "deliberate, temporary relaxations of rules" in order to explore possibilities.

We can treat *intuition as real*. This is an item from his original list of non-rational alternatives.

We can treat *memory as an enemy, experience as a theory* and be *impervious to feedback*.

The expression “impervious to feedback” is taken from the 2006 article. He here mentions another item from his old non-rational alternatives list – faith. But not in a religious sense. In the last section of the article, “*The heroism of fools*”, he argues that sometimes, but only sometimes, progress is made by driven fools blindly believing in an idea and deaf to feedback from so-called reality.

The ToF essay focuses on ToF as a method for developing new and more interesting *goals*, and not on ToF as a method to get new information about alternatives (means) and their effects, as it has often also been seen later. March would – judged on his other works on learning – accept that. It is also worth noting that March is not going totally out on a limb by only advocating a technology of foolishness. He repeatedly stresses that there is also a place for a *technology of reason*.

The tone of the essay is low key as it is fitting for scientific discourse. But the message could also have been in a self-help book style: Don't think so much about realizing your goals and making rational decisions. Not in your private decisions about career, lifestyle, family etc., nor if you are a government fighting a war in Vietnam or a company trying to innovate. Why? Because your thinking might be part of the problem, not part of the solution.

Are the goals you are pursuing with all this energy, these analyses and perhaps McNamarian spreadsheets worth it? Why do you always run after the same old goals with the same old methods without examining them – until it is too late. Then you write your memories where you regret the whole thing (as McNamara did) or you lay there and look back at a life with wasted opportunities. Instead you must experiment, try something, be more foolish, put yourself in new situations, study how interesting people, governments and companies have done, follow your intuition not always your intelligence. Perhaps you will then learn more of what is worthwhile in life.

James March was around 40 years old when he formulated ToF. An age where one is often starting to face the rest of one's life. Should it go on like this? He had had an illustrious career as researcher and professor. He had worked closely with Nobel Prize winners like Herbert Simon, and at 36 he was already Dean at UCI. Donncha Kavanagh (2012) who has interviewed key actors of the time in and around the school, reports that the new Dean got the nickname “boy Dean” (because of his young age or boyish face?). He had organized the School of Social Science from scratch and hired young and top-talented people. The recruits were also diverse, from rather hard-core statistics-oriented researchers to people we today would see as radical social constructionists (e.g. Harold Garfinkel).

March was trying to make these highly intelligent people cooperate both in teaching and research. “The Irvine story [...]”, writes Kavanagh, “highlights the personal trauma and distress that can accompany the creative play of exploration” (ibid, p. 25). He quotes an observer saying: “It was a really interesting experiment, but unfortunately all the rats died!” (ibid., p. 32). Suddenly and to the surprise of many of his colleagues, March resigned and became a “refugee” in Europe, another ToF-like experiment in his life. The school survived but with a more conventional structure and management. Not all experiments are successful. But they might still be useful.

QUANTITATIVE RECEPTION OF TOF – HOW OFTEN, WHERE, WHO

In this section, standard bibliographic sources covering scientific literature are used to trace, how often, where and by whom the ToF essay is cited. After the ToF essay first appeared in *Civilokonomen* in 1971, it was in the coming years also published in 10 books and readers and

perhaps more. A list is shown at the end of this article. Different users of ToF refer to different of these publishings of the ToF essay. This multi-publication situation makes it impossible to trace the impact of an article in the way it is sometimes done, namely, to focus on one and only one article and look at hits (articles and books in the databases) that cites that. Therefore, the searches for the present article (when focusing on ToF) looked for "technology of foolishness" in the full text and checked that the hit was not written by James March (that would not be reception but self-congratulation). As will be shown, this method also had some unintended side-effects. All types of documents in the databases were included, i.e. articles, books and book chapters, conference proceedings and a few minor groups.

The searches were done for 1971 to 2018. A first round of searches was made around May 1st, 2018. In mid-June 2019, the data was updated mainly to fully cover 2018.

Number of Technology of Foolishness Hits in Four Bibliographic Sources

Four bibliographic sources available at the library of the NN University (anonymized) were used, namely: Scopus³, EBSCO⁴, JSTOR⁵ and Google Scholar. The three first are well-established and respected sources of peer-reviewed literature, including social science in a broad sense. They are based on information from publishers. Google Scholar uses Google's technology to search the Internet for publications and identify those of a scientific nature.

The results are presented in **Figure 1**. Google Scholar tops the list with 1,166 hits⁶ for the whole period. Scopus shows 418 hits. EBSCO 160 hits and JSTOR 71. Except for JSTOR, the trend is generally upwards. Initially, one may read this as due to the expanding popularity of the ToF idea combined with an expansion in the number of publications and coverage of these over the years.

³ Scopus is an Elsevier product that covers life sciences, social sciences – here management and organization theory etc. is included - physical sciences, and health sciences. Scopus claims to have the widest coverage in these areas. It traces content from selected quality-rated and peer-reviewed sources. Scopus also traces citations of the content. Books are not fully covered, but one finds handbooks, textbooks, readers etc. More on: <https://www.elsevier.com/solutions/scopus/how-scopus-works/content>, accessed 4.8.18.

⁴ Properly called EBSCO Host databases where it was chosen to search all of them. They include databases of social sciences like Business Source Complete, SocIndex, and PsycInfo. See also: <https://www.ebsco.com/products/research-databases>, accessed 4.8.18.

⁵ JSTOR covers key sources in social science. Their focus is on older material. That can be seen in the numbers found.

⁶ Having looked closer at Google Scholar's higher number of hits compared to the other databases, it can be explained in this way: A. Sometimes (but rarely) Google Scholar is finding references to ToF in scientific journals outside the journals – country-wise or subject-wise – that the other sources cover. B. Most often because researchers and their publishers place their articles on the internet, before and after publication. Google Scholar tries to eliminate duplicates, but there might be small differences that defeat this. Students and educational institutions similarly also have started to publish students' theses. C. Educational material is finally to an increasingly, but still low degree also put on the Internet and sometimes registered by Google Scholar.

Figure 1: "Technology of Foolishness" in four databases 1971-2018

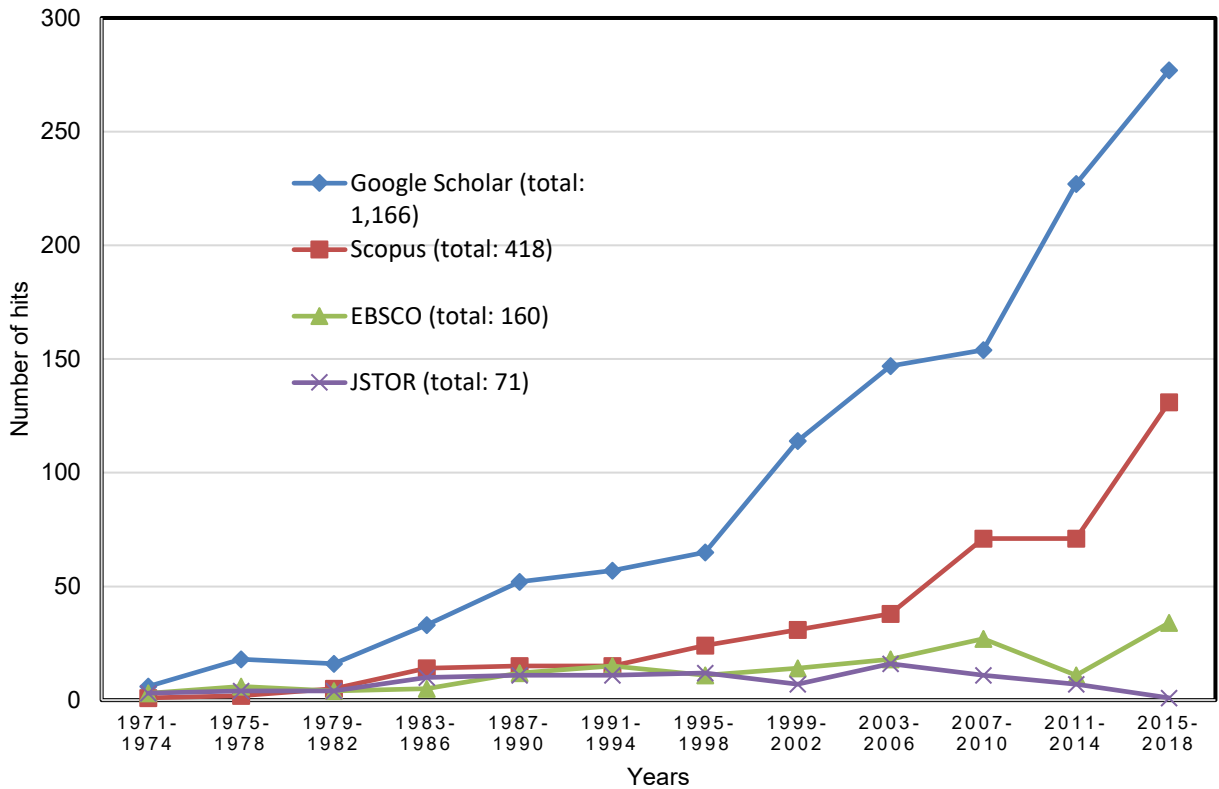
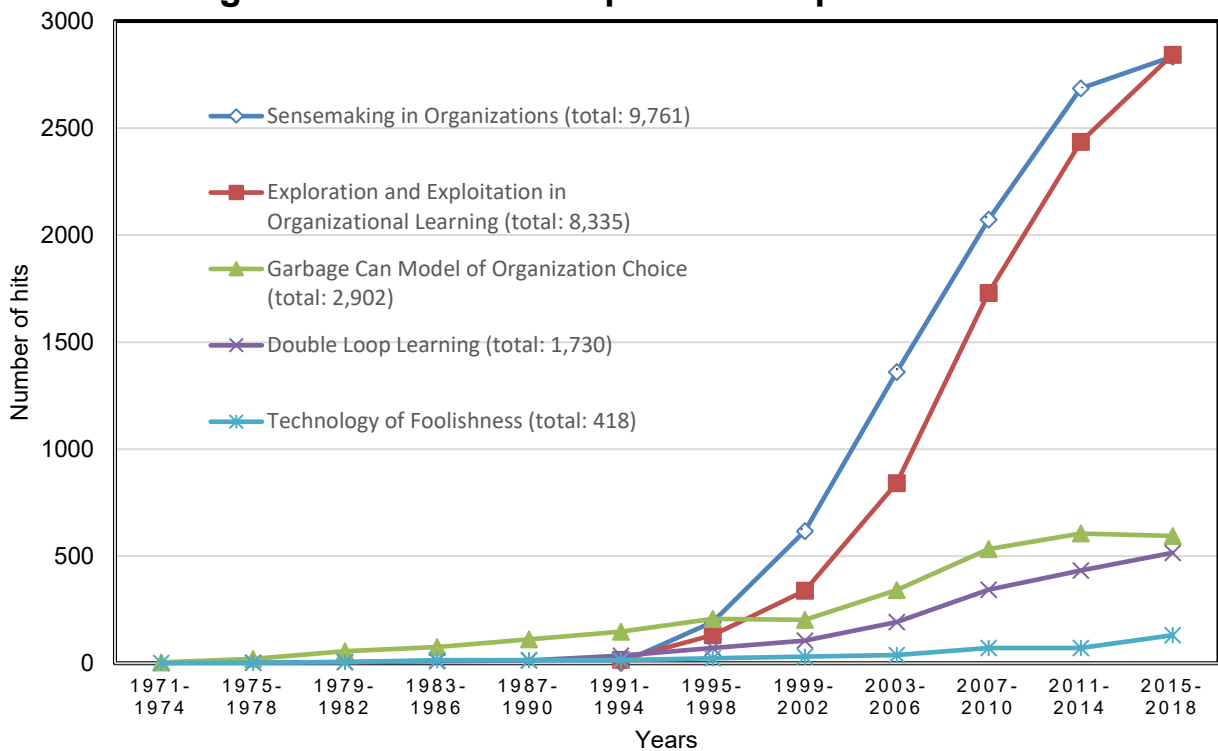


Figure 2: Five concepts in Scopus 1971-2018



In order to put the findings in Figure 1 in perspective, they were compared to how other and somewhat similar concepts known by a distinctive key expression have fared in the same period in Scopus. The following was chosen in an un-scientific way: March's concepts of "Garbage Can" and "Exploration and Exploitation", Karl Weick's "Sensemaking in Organizations" and Chris Argyris' "Double loop learning".

But it was not that easy. The first searches for "Exploration and Exploration" showed, for instance, that March's article with these words (1989) was far from the only one using them. The concept had and have a career in the natural sciences with a substantial number of hits, the first one in 1937. When the search term was changed to "Exploration and Exploitation in Organizational Learning" (the title of March's 1991 article), it charted more correctly his influence. Similarly, the search term for March's article Garbage Can article had to be changed to "Garbage Can Model of Organization Choice" (again the title of his article) in order mainly to keep real garbage cans out. Argyris' "Double Loop Learning" seemed to be specific enough. The same applies to ToF, although with some limitations as described below in relation to the expression "false positives".

The results for the five concepts in Scopus are shown in **Figure 2**. ToF is the least cited among these concepts. Garbage Can has a mid-position, and Exploration and Exploitation as well as Sensemaking top the list.

THE DIFFUSION OF TOF - WHERE, WHO

Next, the diffusion of the ToF regarding where and who was explored. For this purpose, the analytical tools provided by Scopus were used on the mentioned 418 hits in the 1971-2018 period:

The outlets where ToF are cited are Journal Articles (269), Books and Book Chapters (96), Conference Papers (26), Reviews (18), and Other (9). An interesting observation is that no references to ToF appear in books or book chapters before year 2000, but thereafter they take off. ToF has become a classic. The six journals with most articles citing ToF are Accounting, Organizations and Society (10 articles), Organization Studies (10), Academy of Management Review (8), Scandinavian Journal of Management (7), Journal of Business Venturing (6), and Strategic Management Journal (6).

By subject area, Scopus categorizes⁷ 285 articles as belonging to Business, Management and Accounting, 120 to Social Sciences, 88 to Economics, 43 to Psychology, 38 to Decision Sciences, 19 to Arts and Humanities, 31 to Computer Science and 6 to Medicine plus a few in some other areas. ToF has a wide diffusion.

Regarding the citing authors' institutional affiliations, Scopus categorizes 25 as affiliated with Copenhagen Business School, 15 with University of Virginia (not least due to the affiliation of Saras Sarasvathy), 15 with Aalto University, 14 with Uppsala University, 10 with University of Technology Sydney, 10 with Stanford University, 10 with Naval Postgraduate School, 8 with University of Gothenburg. Plus a number of universities with lesser scores.

The Scopus data about the citing authors' reported country affiliations show that 119 are from the US, 64 from the UK, 47 from Sweden, 35 from Denmark, 29 from Finland, 25 from Australia, 18 from Canada, 14 from Norway. Plus a number of countries.

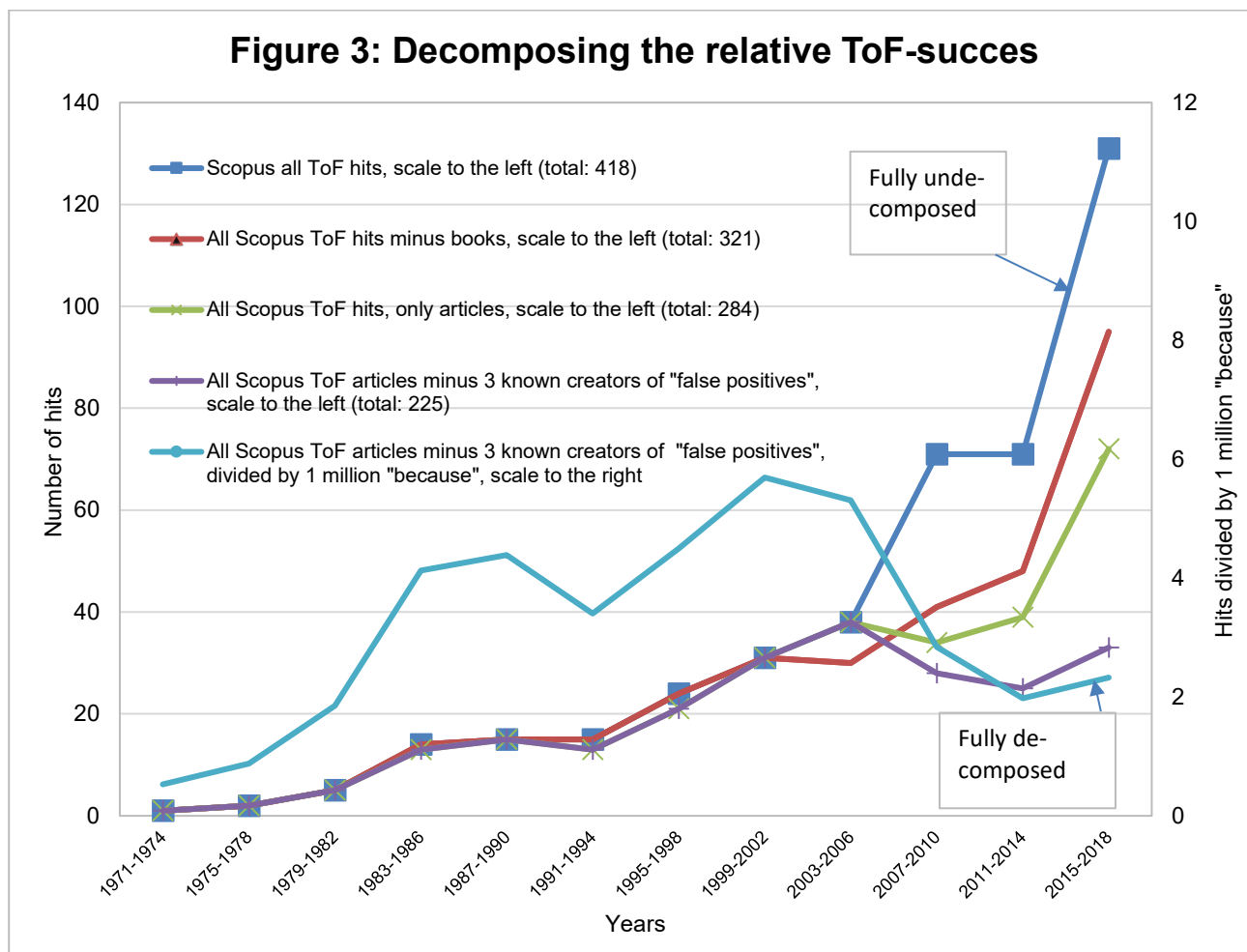
⁷ The sum is larger than 418, as an article might be categorized as belonging to more than one category.

The numbers for Sweden, Denmark, Norway and Finland, which make up a total of 125, illustrate the "Scandinavian connection" established via James March's contacts with many Scandinavian scholars as well as his role as a founder and director of SCANCOR (Scandinavian Consortium of Organizational Research). A supplementary explanation could be that the ToF idea fits into an assumed "Scandinavian culture".

Decomposing the relative ToF success

The results presented so far show a moderate success for ToF. Even if the citation numbers are lower than other well-known concepts, the citation numbers seem to be growing. After having read most of the hits (as reported below), I noted some limits to the success-story, that is put in quantitative terms in **Figure 3**.

The curve with the small rectangles marked "Fully undecomposed" shows the Scopus scores that were also shown in Figure 1 and 2. The next curve down (with triangles) shows these hits minus books. Reading the hits, I saw that the treatment of ToF was different in the research articles and in the books. In the books (think: handbooks, textbooks) the treatment of ToF and other concepts was not critical or discussing, but placed ToF as one of the concepts, that one seemingly needed to know. Put in a hard way: When you appear in these books, you are part of a tradition worth mentioning. You are perhaps a guru, an important researcher in the field, but you are "dead". As mentioned before, the curve for these hits minus books departs from the fully undecomposed curve from ca. year 2000 onwards. The curve with the crosses shows the hits further reduced just to the articles (i.e. minus books *and* conference proceedings, reviews, editorials etc.).



The next curve down shows the ToF article hits with "false positives" detracted. By "false positives" I mean articles that contain the expression "technology of foolishness" but does not refer to one of the original ToF articles of March. Three often cited articles have, for instance, "technology of foolishness" in their title (Dodgson, Gann, & Phillips, 2013; Jacobs & Statler, 2006; Sarasvathy & Dew, 2005). These 3 articles are not "false positives" in themselves. They refer to and use March's ToF article rather intensely. But when others cite one of these 3 articles and not a March ToF article, these citings become "false positives". This is an unintended side-effect of my method. It is naturally an achievement for an author (here March), when a concept become so accepted, that it is used without reference to the original inventor. But it is not substantial reception and therefore this curve subtracts them. The curve for article hits minus these false positives shows a decline of citings of the ToF concept after 2006.

The final decomposed curve in Figure 3 takes up the factor of the growing number of journals and articles over the years. As I could not find information on that, I made the decision to search for common words, the number of which, or actually the number of articles containing these words, could be a proxy for the number of articles over the years. The last "Fully decomposed" curve shows the data from the former curve (articles minus false positives), divided by one million articles containing the word "because". According to this, the ToF had its relative heyday in 1999-2002, and since then only experienced a downward trend (except for a small upward turn in 2015-2018). The same general pattern appears, when "journal" is used instead of "because".

QUALITATIVE RECEPTION – HOW IS TOF USED?

Ralf Wilden and colleagues have demonstrated that one can get further than what is presented above with quantitative and statistical analysis of article content (Wilden, Hohberger, Devinney, & Lavie, 2018). They studied the reception of James March's article "Exploration and Exploitation in Organizational Learning" (1991) and were able to chart which elements of March's argumentation were taken up by other researchers and on this basis to identify clusters of use and users. With the larger number of articles etc. referring to this March article compared to the ToF essay (as seen in Figure 2 above), this was also a more feasible method.

But without reading the hits (articles, books etc.) there are, however, many questions that are left unanswered (Anderson & Sun, 2010). *How* is ToF used? Superficially or central to the argumentation in the articles? In empirical analyses or theoretical? What value does the ToF perspective add to the hits or to ToF? And, as in the Wilden-analysis: Which elements (in this case of ToF) are used? These are the central questions for the rest of this paper.

To answer these questions, a two-stage method was used. First, a more *cursory reading* was done of all hits registered in Figure 1 above. Then a *closer reading* of a subset of them was done. Both readings as well as coding were done by the author of this article alone. The closer reading was first done in the spring of 2018 and then updated regarding 2014-18 in June 2019 (as with the quantitative data).

The cursory reading and looking up in the library electronic system covered all hits in Scopus (418, see Figure 1) and added hits from EBSCO and JSTOR that were not found in Scopus. In this way EBSCO and JSTOR added 85 hits to the corpus that then amounted to 503 hits. Some of these hits were unqualified for the closer reading: 110 could not be retrieved electronically in full text from

the library at the NN University (anonymized). These were over-proportionally books and conference proceedings. The non-retrieval rate for articles was less than 5%. Then the false positives had to be subtracted also. 59 of these were indicated in the quantitative analysis in Figure 3 for 3 known articles that create false positives when they are cited. A few other kinds of false positives were also subtracted. The corpus then in focus amounted to 319 hits.

In the cursory reading these 319 hits were coded according to 4 categories:

1. ToF is mentioned in a marginal or casual way, e.g. bundled with many other references in the same bracket – 67 of the hits fell in this category.
2. ToF is given a minor description, not central to the citing publication's argument – 122 hits.
3. ToF is part of a framework applied in an empirical analysis – 19 hits.
4. ToF is part of a theoretical or systematic analysis – 111 hits.

The results show that category 1 and 2, the superficial and minor use of ToF, dominated with 59% of the hits (67+122). Only the 130 hits of category 3 and 4 were subjected to the closer reading.

CLOSER READING OF TOF ARTICLES

A first observation was that there was a soft border between category 3 and 4. The distinction empirical/theoretical sounded clear beforehand. But it was a difficult line to draw, at least in this sample.

There are almost no examples of empirical tests of the ToF idea or parts of it. Only one article presents itself in this way, specifically as a test of March's ToF hypothesis that memory can be "an enemy" (Moorman & Miner, 1997). The authors studied the benefits of higher organizational memory levels and memory dispersion in stable and turbulent situations. They concluded that "[t]hese findings provide some initial evidence that knowledge is not an unconditionally positive asset" (ibid, p. 91).

Other articles connect ToF with empirical data in different ways, for example case studies where ToF is a part of the analytical framework. But the "theoretical" code 4 articles also often had some empirical elements: Reference to specific industries, small case stories or examples to illustrate a point. Further, the arguments and interpretation of ToF were often similar in the categories 3 and 4. The results are therefore here reported across the two categories.

But how to structure the presentation of the results? One possibility would be to try to order them in relation to relevance to contemporary problems. I have tried that but given it up. There are too many problems implied: Relevance to whom? What is relevance? Should social science *be* relevant? To present or future problems? The idea implied in ToF is also that relevance to present problems (goals, preferences) is not always fruitful.

Rather the following is structured according to what impact the ToF essay has. What added value is created (if any), either to the ToF concept or to understanding the empirical or theoretical matter of the hit? This perspective follows up on the "semen" and reception perspective mentioned in the beginning of this article. It is also a consequence of the numbers presented above saying that the superficial and minor use of ToF dominated in the cursory reading with 59% of the hits. How superficial or deep is the use of ToF in the hits in this closer reading of the rest of the hits?

This has led to the following subjects or groups of hits (that uses ToF), ordered from low/no value added to high value added:

- Example of a low value-added hit
- Flagpole use
- Playfulness
- Improvisation
- Hypocrisy
- Entrepreneurship.

Example of a low value-added hit

The example is the (interesting) article mentioned in relation to Figure 3 above as having "technology of foolishness" in its title and often being cited by later authors writing about IT, use of virtual reality etc. The article describes a program developed for a customer by IBM (Dodgson et al., 2013). Instead of expensive meetings between people placed apart, they meet on an internet-software showing a conference room where the participants represented virtually also can write their thoughts and other participants can comment on them. In addition to the saved travel expenses, it seems to allow for more open discussions among the participants than real-life conferences. Dodgson et al. write: "To help frame our analysis, we use March's (1976) distinction between technologies of foolishness and technologies of rationality. To overcome and counteract constraints to organizational learning and change, March extols the virtues of technologies of foolishness" (p. 1259). The authors do not develop ToF, and ToF does not add to the understanding of the new technique. Using the word "creative" could have done the same job. ToF "only" helps to "frame" it, as the authors correctly notice.

Flagpole use

By "flagpole quotations" are here meant quotations that mark the end of a line or the corner of a field. Some article writers define different positions (= flagpoles), more or less as ideal types. ToF then often ends at the one end, the far end of the scale. Two examples are:

Cheng-Hua Tzeng provides a thoughtful survey of three schools of innovation in large companies that he sees as having roots in Schumpeter's thinking: The cultural school (innovation as craft, "inventors"), capability school (innovation through routinization, innovation from development departments) and the corporate entrepreneurial school that models itself after how startup entrepreneurs work. ToF is taken as a main example in the last category (2009).

Per-Erik Ellström discusses educational organizations and establishes a typology for understanding them: The rational model, the political model, the social system model, and the anarchistic model, where ToF is taken as an example (1983).

The publication of the ToF essay in different readers and textbooks on management with other management classics can be seen in a similar way. An example is (Pugh & Hickson, 2007) that present the flagpole views of Fayol, Taylor, Drucker, Foucault, Simon, March, and Weick.

One can see such and other flagpole quotations and placements as a sign that James March has expanded the area for what proper management researchers can talk about and teach on proper business school premises, in journals and books.

Playfulness

This is the keyword that is most often taken from March's essay. But often without adding to the subject or the concept. Mark Considine argues, for instance, that policy makers need to “think outside the box” (2012), an expression one can find in unbearable numbers in the literature also without inspiration from March. The play, not least in the Scandinavian tradition, is often implicitly identified with some kind of "free play". March's idea that we sometimes need to be forced to learn something new, is barely mentioned.

Some hits in this area, however, adds more. There are those that relate ToF to other thinkers of playfulness. Douglas Torgerson connects March and ToF with Habermas, de Bono and Bakhtin. Torgerson: March’s idea of a technology of foolishness recall not only the specific image of the wise fool – or jester – but also the carnivalesque, that world which, according to Bakhtin, distinguished itself from medieval officialdom with its own logic and language: ‘All the symbols of the carnival idiom’, says Bakhtin, ‘are filled ... with a sense of the gay relativity of prevailing truths and authorities’ (2010, p. 8).

Michal Izak also explores play. In an article with the title "Learning from a fool: Searching for the 'unmanaged' context for radical learning" (2015) he discusses the organizational framework – often unmanaged, unnoticed, and uncontrolled space – that allows for learning and free thinking. I will come back to Izak's views on this at the end of this article. In another article Izak explores the concept of foolishness and argues carefully that it is not the opposite of wisdom. It is part of it, and wisdom has to be allowed to be foolish sometimes (2013).

Improvisation

Some authors relate ToF to improvisation. Claes Gustafsson and Marcus Lindahl (2017) is inspired by a mini case of a Western contractor building a power station in India. They describe it as a situation where nothing really worked according to plan and the players therefore had to use gut feeling, fragmented knowledge and improvisation. In practice it meant that the Swedish manager was driving around town to find tools and parts, that the subcontractors did not provide as promised.

It is an interesting story and there are references to other improvisation literature. But there is only a moderate added value. No formulation of a typology of improvisation in different situations. Only one little piece of data (manager going around town). No description of how a traditional organization can accept or promote that (only in far-away countries?). Or hints on how to improvise productively.

Stuart Clegg and Kristian Kreiner provide a description of the ambiguous interpretation of failures in the construction industry (2014). ToF is introduced in this way: “Facing a complex project management environment it may be more rational to abandon exclusive commitment to notions of formal a priori planning and supplement these assumptions with a more humble step-by-step approach, one that tolerates error and occasional foolishness, in March’s (1988) terms: in other words, improvisation” (ibid., p. 264). But their analysis is limited as in the Indian story.

A new and interesting article outside our time range describes, inspired by ToF, how different authorities had to interact in Vienna, when they experienced an influx of immigrants (Kornberger, Leixnering, & Meyer, 2019).

For the purpose of describing improvisation and how to do it, some authors, also referring to ToF, use art metaphors, like jazz (Hatch, 1999) and radical theatre that is said to be based on trust and

learning (Copey, 1998). These are interesting metaphors for improvisation, but more could be done here.

Hypocrisy

Nils Brunsson is represented in the hits with an article titled: "Deciding for Responsibility and Legitimation" (1990). It is based on empirical work of decision-making in Swedish city-government. He argues that when legitimacy is important, decision makers and their organizations will use external *talk*, which can be viewed as a form of window dressing (not his words), a sort of hypocrisy where the "rational decision model" is performed on stage, and thereby is celebrated, but not really used.

The year before Brunsson had published a book: "The Organization of Hypocrisy" (1989). Brunsson views the municipality he studied as consisting of two parts: A *political organization* and an *action organization*. The political organization includes the elected politicians, organized by parties and in different committees. Its composition reflects the electorate and its often "inconsistent norms" (ibid, p. 19). The action organization includes the administration and the local institutions (schools, kindergartens etc.). It is ideal-typically based on agreement and in that sense "narrower and more stupid" (ibid, p. 16).

The conventional idea is that the politicians control the administration by making decisions about actual projects, general goals, and budgets. Yet, often the control is non-existing, as described in the implementation literature. This situation creates what one might call "*structural hypocrisy*" (not Brunsson's word), which I find is the main contribution of his book: In certain situations, in public and private organizations, lying or something close is normal. It is not only a result of personal lack of moral. This could inspire much more research than it has. No other authors among the hits takes up the hypocrisy theme.

Entrepreneurship

In this area ToF has had the most direct and concrete impact.

Casalini et al. (2016) studied the founding of a company (iPlon) producing solutions in the field of the Internet of Things. Their reading of ToF goes beyond the usual calls for playfulness: "[Innovation] is a weird decision process where goals and preferences, means and ends are conceived at the same time, but this process follows certain patterns nonetheless" (ibid., p. 1).

Casalini et al. interviewed the employees of iPlon: "[W]hen pressed for details our interviewees told us stories that were superficially made of chains of fortuitous events, but actually entailed also the ability to exploit these events" (ibid., p. 9). This ability consisted of three elements: A *foolish faith* in a certain solution, an identity of *being special* – a connector not a producer of hardware, and an *adventurous life*, both personally and in the sense of having no fixed set of customers.

Sarasvathy (1998), as part of her dissertation, had 27 "expert entrepreneurs" with success tell a tape recorder their thoughts on 10 decisions that was involved in a written case on how to go from an idea to a new company. Her analysis of the tapes showed a thinking style focusing more on what *could* be done than on what *ought* to be done in relation to a set of goals.

Dew focused in his earlier contribution (also his dissertation) on the development of wireless barcodes relevant to the Internet of Things. The development started with a chance meeting between an engaged robotics expert (whose seminar had been cancelled) and an employee from Proctor & Gamble who wanted to keep track of changes in the sales of lipstick of different colors.

Sarasvathy & Dew (2005) summarize what they saw in their respective case material by arguing that what took place was *effectuation*, rather than a goal-oriented processes, which they label *causation*. “While causal models begin with predetermined goals to be attained or effects to be created, and seek to generate and select between alternatives to achieve those ends, effectual models are primarily means-driven (i.e. only loosely tethered to goals) and seek to generate new effects to be created and to select between them” (ibid, p. 388). (It is another of the articles that has been creating many false positives, see Figure 3).

Sarasvathy has, with different co-authors, after the 2005-article, written several articles on effectuation. She has also authored and co-authored popular and bestselling books about effectuation and entrepreneurship. She seems to be a competent entrepreneur in her own right.

CRITICISMS OF TOF

This Section looks at what (negative) criticism was found of ToF in the articles subject to the closer reading. It is not much:

The moral charge

Professor Chris Argyris (1923–2013) of Harvard Business School was one of the first critical voices of ToF (and Garbage Can) included in a 14-page article in *Administrative Science Quarterly* entitled “Single Loop and Double-Loop Models in Research on Decision Making” (1976). Argyris’ single-loop learning” (here: SLL) is learning within one’s existing thought paradigm. It is a sort of exploitative learning. “Double-loop learning” (DLL) is learning that reflects on one’s thought paradigm. A sort of explorative learning. A concept close to that of ToF. It is strange and unfair that March does not refer to Argyris, who dominated the field of organizational learning before March and Weick came along, even in his reference-heavy 2006 restatement of ToF.

Argyris' research was inspired by traditions going back to German immigrants like Kurt Lewin who fled from Nazi Germany to the US. Keywords: NTL, T-groups, sensitivity training, to listen, to be genuine. This tradition felt that the concept of truth was very important and real. Argyris in this vein writes that what we need in leadership is “valid information” and “valid feedback”. This stands in opposition to the tradition ToF is part of, where what is presented as “valid”, “truth”, “information” and “data” is seen as possibly false, something that is used for (self-)deception, rationalization and propaganda (example: Brunsson). And this tradition does not think it can be much different.

Argyris writes referring to the Garbage Can concept:

“Cohen and March recommend a leadership strategy that has been called (by March) mini-Machiavellian and derivable from the major properties of decision making in organized anarchies that Cohen and March found as a result of their research” (ibid, p. 363).

“[T]he advice appears to sanction deceit. The effectiveness of a mini-Machiavellian leadership is based on the assumption that the reasons for behavior or strategy are kept secret” (ibid, p. 363–4).

ToF's pointing to the usefulness of some rationalization and a certain degree of hypocrisy (on the part of e.g. leaders) can be seen as going down the same mini-Machiavellian road.

Argyris also expressed dissatisfaction with the turn leadership research generally took at the time, not least the Cohen and March approach that describe leadership *as it is*. This as-is was also called a *descriptive* or behavioral approach (represented by March and many others) rather than the

prescriptive tradition that had nearly dominated management research earlier. The descriptive perspective was seen and felt as a relief by many non-economist researchers and readers of management literature at the time. But for Argyris it left a need for insights on how to reduce dysfunctional behavior:

“For example, a collegial style of decision making might be recommended, but no insight [is] provided on [how] this could be attained without first reducing conflict, mistrust, and so on” (ibid, p. 364).

Another “moral voice” is represented by Vincenzo Ruggiero in the *International Journal of the Sociology of Law* (2007). Ruggiero starts by referring to the classical article of Sutherland from 1945 on white-collar crime and writes: “Organisational theories can help locate gangster power crime analytically. While Etzioni’s (1964) organisation man, who tests reality and defers gratification, may not be the eponymous gangster, March’s (1990, p. 335) *morally uncertain man* may well describe this type of power criminal” (ibid, p. 170, emphasis added). The reference to a March 1990-article is to one of the ToF publications. Ruggiero:

“This temporary absence of rules [propagated by ToF] may favour the exploration of new possibilities, so that new, alternative rules may eventually be identified. Consistency is also suspended while a sort of transitional hypocrisy is adopted. In entering a moral limbo, powerful groups and individuals may therefore delete their memory: forgetting past rules and goals is a guarantee for the discovery of new ones” (ibid, p. 170, parenthesis added).

Absence of emotions and power

Paul Adler and David Obstfeld criticize the Carnegie School of decision-making (where March is seen as a member) for *ignoring the role of emotions* in organizations and focusing too much on the intellectual and cognitive problems in learning (2007). And it is true that emotions, subconscious drives, wishes for revenge or to prove one-self honest and competent are absent in ToF. March’s 2006-praise of the “heroism of fools”, sometimes illustrated by him by Don Quixote, and Sarasvathy’s focus on a seemingly irrational will to succeed, are more in line with this wish to include feelings but it is underdeveloped in ToF and its reception.

A final criticism thinks that ToF *ignores power*, a typical “European” kind of criticism (Hofstede, 1996). That is how one can interpret Mats Alvesson’s and André Spicer’s article titled “A Stupidity-Based Theory of Organizations” (2012). Their concept refers to organization cultures that “lack reflexivity, a refusal to use intellectual capacities in other than myopic ways, and avoidance of justifications” (ibid, p. 1467).

Another European voice, Jean-Noël Chauvey (2010) also focuses on power and gives his article this English title: “Hypocrisy, foolishness: the new levers of control?” Here ToF is viewed as a possible *part of power*. Chauvey supplements Alvesson’s and Spicer’s perspectives with empirical data from participant observation in a large French technical consultancy company. He found that there were several inconsistencies or ambiguities, in the form of contradictory aims formulated by management, covered up with internal hypocrisy.

MORE OR LESS USED ELEMENTS OF TOF

In this Section it is summarized which elements of James March’s formulations in the ToF essay have been taken up by scholars. The results are presented in **Table 1**. The elements mentioned in

the first column of Table 1 are the same as in the description of the ToF essay in Section "A Closer Look at the ToF Essay and its Elements" above and explain how one can make decisions without already established goals.

Table 1: More or Less Used Elements of the ToF Essay.

ToF elements	Use in the studied literature	Comments
We can <i>imitate</i> behavior of interesting persons.	Nearly Nil.	Only one example and only as a short mention, not an analysis (Ganz, 2000). This is open land.
We can treat <i>goals as hypotheses</i> , discovering goals via the <i>children model</i> of learning and <i>coercion</i> .	Some.	Many authors mention goals as temporary ideas. Sarasvathy and colleagues take it up in their entrepreneurship studies. Nobody (except in a limited way: Bromiley & Marcus, 1987) uses the children model and coercion.
Use <i>rationalization</i> and <i>hypocrisy</i> to cover us while we find new goals.	Some.	Nils Brunsson has written on hypocrisy. See further discussion of this in the next Section.
Use <i>evaluations</i> to look forward.	Nil.	
Introduce <i>playfulness</i> in organizations.	A lot.	This is the most used and misused (but also most diffuse) element in ToF. Often play is interpreted in a superficial way.
We can treat <i>intuition as real</i> .	Nearly Nil.	The popular management literature has a lot about intuition. Kahneman (2011) has researched it in depth under the name of "fast decisions", not referring to ToF. But there is nearly nothing in the ToF reception, unless one includes the hits on improvisation.
We can treat <i>memory as an enemy</i> , <i>experience as a theory</i> and be <i>impervious to feedback</i> .	Some.	The entrepreneurship studies of Sarasvathy and colleagues, mentioned above, can also be connected to this element. But focus is on start-up companies, not on established companies. There are practically no studies of useful destruction of memory (knowledge destruction management?) and unlearning in large organizations.

CONCLUSIONS

The ToF essay reflects ideas of the late 60s political and cultural upheaval in the western world. These new ideas originated in California, where James March worked at the time. It also reflected

some of the daring organization experiments that March undertook as a young Dean of the School of Social Science at the University of California, Irvine for six years from 1964 to 1969.

A quantitative analysis of the reception in the research literature of the ToF article found that ToF is cited to a growing degree (Figure 1). It was also shown that ToF is the *least cited* of March's well-known concepts (Figure 2). The growth shown in Figure 1 is, when decomposed, not so obvious (Figure 3). Rather, the ToF concept had its *best days around year 2000*.

A cursory reading and coding of the hits (= scholarly articles, books etc. citing the ToF article 1980-2018) showed that in 59% of the hits, ToF is used in a *marginal or minor way*. Hits where *empirical* data play a major role only make up 6%, while hits that include ToF in a *theoretical or systematic discussion* comprise 35%.

A closer reading of the hits, where ToF is not used in a marginal or minor way, looked at how far these hits gave added value either to the substance that an article is treating (theoretical or empirical) or to the ToF concept itself.

Not many did that. (This result corresponds to what other reception studies has noticed, calling such citations "symbolic" and "perfunctory" (Allan, 1997; Anderson & Sun, 2010, p. 143). They seem often more oriented to legitimizing the author than to better his or her article. This seems to hit classic authors hard. Lounsbury & Carberry shows, for instance, how references to Max Weber has turned ceremonious in organization research. He is not really used and understood anymore. The title of their article is "From King to Court Jester? Weber's Fall from Grace in Organizational Theory" (2005).) James March seems to be on the same path.

In the closer reading referred to above, some use ToF as a *flagpole* or to discuss *playfulness, improvisation, hypocrisy* and *entrepreneurship* with different degrees of added value.

The ToF described in the hits is rarely if ever a 1:1 image of what March wrote. There is normally a substantial *selection or translation*. Several elements of ToF have not been used and thus are still available as inspiration. (Such selectivity close to incorrectness in the diffusion of ideas in a discipline, across national and organizational borders has been noted in other reception studies (Anderson, 2006; Anderson & Sun, 2010; Hofstede, 1996; Røvik, 2016; NN anonymized)).

There has been *little criticism* of ToF. But there is some: A "moral charge" has been that ToF and other March concepts are mini-Machiavellian and accepting of even criminal behavior. Others have criticized ToF for ignoring power, and that it possibly can be used as a power instrument. Some criticize the absence of emotions in ToF, which is mainly, if not totally, focused on cognitive issues in decision making as are March's work on learning in general. (Explicit criticism has also been shown to be rare in other reception studies (Anderson & Sun, 2010, p. 139).)

The references to the reception literature above in parentheses are not complete. They are here to frame the results of the present study. This study is focused on ToF not on the reception process in social science as such.

DISCUSSION AND FURTHER RESEARCH

Intelligent holes in stupid organizations – is free thinking possible in organizations?

As mentioned above, the contribution of M. Izak (2013, 2015) using ToF as a stepping stone has potential for interesting developments in organization theory. The same applies to Alvesson and

Spicer's article titled "A Stupidity-Based Theory of Organizations" (2012) that was mentioned in the Section on criticism of ToF.

Both authors see usual organizations, public or private, as some sort of mindless production machines reminding one of Chaplin's Modern Times grinding on when they have been designed and started. They could also be called perfect bureaucracies. Izak credits Yiannis Gabriel with the concept of "unmanaged space" (1995) and quotes Gabriel for words like unsupervised, spontaneous and irrational about it. See also (Gabriel, 2000). Alvesson and Spicer focus on lack of reflexivity, substantive reasoning, and justification in the "stupid" organization and by implication their holes are areas where the opposite traits occur.

Nils Brunsson similarly calls what he terms the "production organization" as opposed to the "political organisation" "stupider" and more "irrational" in a not dissimilar sense (1989, p. 16-7).

It is interesting that Nils Brunsson with colleagues in his recent works has focused on a "inverted" phenomenon, namely the organized aspects of the environment outside organizations (Ahrne, Brunsson, & Seidl, 2016). Sometimes organizational theorists have seen the space outside the organization as an uninteresting void. Sometimes as something owned by economist and understood as markets, later, inspired by systems theory, as environment inhabited by networks, clans, norms, institutions, politics etc. Now, Brunsson and colleagues suggest using the organization perspective to understand what is outside organizations: There are organized holes in the former void! By organized Arne et al. mean a "decided order" with decisions on membership, hierarchy, rules, monitoring and sanctions (ibid., p. 95).

A fruitful conclusion could be that neither is the outside of organizations a wall-to-wall void nor is the inside wall-to-wall organized and decided. There are holes in organizations, and if one accepts the term stupidity as describing main features of organizations, these holes can be termed *intelligent holes*, the term used here about them.

Before embarking on a further study of intelligent holes, there are a few problems it is worth discussing and making clear, even if this can only be sketched here:

The *assumption of wall-to-wall stupidity* in organizations except for the mentioned holes should be discussed. Also, the cover term used here, intelligent holes, could be questioned. All the holes mentioned here are at least *not intelligent in the same way*. Gabriel's conception of them as "spontaneous" and "irrational", the site for storytelling focusing on meaning rather than truth, is at one end of a scale. Other holes are more "rational" in more conventional meanings of this word. However, all are in some way antidotes and perhaps useful correctives to the stupid machine.

A definition of *holes as un- or semi decided subsystems* versus the decided organization as is suggested above by the inverse-reading of Brunsson, should also be put under scrutiny. It does not make clear who should decide it in order to make it part of the organization. It could mean "decided by the proper powers of the official and formal organization", which would provide a seemingly clear definition. But that would blind one to other decisionmakers. And does it mean all official decisionmakers over time or only now? The same applies to Gabriel's view of his holes as "unmanaged": Managed by whom? It should also be remembered that the concept of "decision" has been under criticism, not least from James March's thinking embodied in the Garbage Can concept. Here decisions are not really "made", they "happen" ... they are outcomes of social and intellectual processes that no single participant might understand or control fully (March, 1991).

Even if the organization minus the holes might be "stupid", the *stupid parts are usually necessary* in some form. Without the kindergartens and old-people's homes, the politicians in Brunsson's study would be deprived of any meaningful role. Without the non-research staff at universities that see to that money is raised for buildings, these are built, rooms cleaned and booked, the researchers could not have their research seminars., which, at their best, can be seen as intelligent holes.

There is often is a *spatial-physical* side to the holes. Areas where customers can intrude are often more controlled, while actual working areas are more secluded and perhaps not fully controlled by the organization and then perhaps with another logic. But "spaces" should not only be thought of as physical. They can also be *temporal*. Before and after a meeting in the formal meeting rooms, freer talk is possible. During the night shift, when no managers and only a few employees are around, more open talk can take place.

Looking at the organization literature from a hole-perspective, there is a lot to find. For instance the old concept of the "*informal organization*" and Burns & Stalker's "*organic organization*" (1961) Here the focus is not on actual holes, but on alternative logics to the stupid organization. Peters & Waterman's famed and criticized book "In Search of Excellence" pointed to the importance of unauthorized innovation groups called "skunk works" (2006). Similar development groups at Texas instruments were called the "lunatic fringe" (Lewis, 2006). These concepts could be leads for the right fools who dare to use such discarded books and words.

We naturally have Goffman's seminal work describing "front stage" and "back stage", using a stage metaphor (1959). Front stage is where the self-presentation of (in this case: the organization and its) actors are taking place when they are under scrutiny from critical others, e.g. customers, inspectors of different kind, investors. And back stage is where the actors plan or review their performance, experience tension relief, and allow themselves a freer or at least a different sets of arguments. In Goffman's back stage we are not far from Gabriel's holes with their irrationality and irresponsible play, but there might also be traces of "real rationality" (how to solve a problem regardless of official norms).

The conclusion is that different understandings of holes in the stupid organizations vary along several dimensions: Regarding how decided they are and by whom, how "rational" they are in several senses, how "free" they are, and how much they are tied to space and time. We need a clearer typology of them and of their possible contribution to the main organization.

Hypocrisy in organizations – organizations as moral agents

The limited use of the ToF element hypocrisy (line 3, Table 1) is intriguing, because one could argue that hypocrisy is becoming a main issue in the relatively free western societies.

In society, it seems that "public man" and "private man" (or "woman"), after a perhaps unique historical meeting in the decades at and after the time March wrote his essay, are now again drifting apart. An example: In the protests in California mentioned above, open display of bodies and sex was not unnormal. That has changed. Outward appearance has become more controlled and pleasing to mothers and fathers in law.

Free play and thinking are perhaps to a growing degree only possible in the darkest cellars and backrooms of companies and universities marked: "Beware: Views might here be expressed that may seem to many wrong, distasteful, or offensive" and in the most private thoughts of individuals. Public discourse, when not anonymous or from those of us who have nothing to lose, becomes guarded and scripted within narrow limits.

In organizations, the gap between the stupid organization and the intelligent holes is problematic. How to use the possible intelligent insights (if any) from intelligent holes, if they go against well-established thinking in the organization?

And how to protect the intelligent holes from destruction by organizational stupidity and "morality"? Here *hypocrisy is a possible protection strategy*. In the present paper three types of hypocrisy have been identified:

James March's rather innocent hypocrisy mentioned in the ToF essay: Sometimes you can protect your play and experimentation to find new goals with a little lying and pretending that you know the right (old) goals and certainly, certainly follow them. We could call it *experimental hypocrisy*.

A Brunsson actor 1 (1989) who knows that it is his or her job as a politician in the public sector or top manager in a private company to talk and talk to assure external legitimacy with different groups and to protect the organization's production core. We could call it *structural hypocrisy*.

A somewhat more Machiavellian Brunsson actor 2 who knows when it is wise to stage a public decision process with a full display of firecrackers. And knows when a decision process "should" be totally private (1990). That is *Machiavellian hypocrisy*.

And there are perhaps other and more malign types of hypocrisy emerging today. One could be called *obligatory hypocrisy*. Brunsson's actors are not fully forced but understand the necessity of talking. Now it might be different: Demands from the outside or inside of an organization in other areas than what was earlier seen as relevant areas for criticism – economic results, illegal practices, cheating customers, lately damage to the "environment" – can crush a person or a company. Today, organizations are to a growing degree supposed to be "*moral agents*", where we fallible humans obviously are not. Does this wish for moral organizations add to "real" morality in society or to hypocrisy and/or perhaps to a stifling of creativity? March, in an article on Henrik Ibsen, suggests that a "lie multiplier" can follow: "Lies stimulate demands for moral purity which stimulate those lies" (2007, p. 1283) and "a society or organization that insists strongly on virtue will become a society or organization based on lies and one that risks becoming entangled in an escalation of lying and prudery" (same page).

The free lots are plenty in the land of ToF, and so are the challenges that can make that land interesting. How can we achieve (or perhaps just maintain) playfulness, free thinking and non-rigid behavior in organizations and in society? And how can we (reintroduce) the difficult concept of truth and social accountability in an age of fake news, post-modern doubt about truth and growing hypocrisy? ToF is dead. Let us resurrect it.

Identified Versions of “The Technology of Foolishness” article

1. March, J. G. (1971) The Technology of Foolishness. Civilokonomen, vol. 18, no. 4, pp. 7-12.
2. March, J. G. (1972) The Technology of Foolishness. Stanford Alumni Almanac, vol. 11 (October 1972), p. 6.
3. March, J. G. (1973) The Technology of Foolishness. In: H. J. Leavitt & L. R. Pondy (eds.), Readings in Managerial Psychology, 2nd edition. Chicago, IL: University of Chicago Press, pp. 628-39.
4. March, J. G. (1974) The Technology of Foolishness. In: M. D. Cohen & J. G. March (eds.) Leadership and Ambiguity: The American College President. New York, NY: McGraw-Hill, pp. 216-229.
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6. March, J. G. (1976) The Technology of Foolishness In: J. G. March & J. P. Olsen (eds.) Ambiguity and Choice in Organizations. Oslo: Universitetsforlaget, pp. 69-81.
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