

Brief refutation of efforts to establish a third organizational design principle

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Abstract

Two recent papers have revised previous attempts at establishing the existence of a third organizational design principle to add to the two genotypical principles discovered by Fred Emery in 1967. These papers are by Selsky, Ramirez and Baburoglu (2013) and Baburoglu and Selsky (2022). This paper rejects their claims with the same reasoning as has met their previous claims. There are two main reasons for rejecting the possibility of a third principle: first, the two established principles plus their absence constitute a complete set which means a third principle is theoretically impossible and second, the proposed new principle does not produce an organizational design. The genotypical design principles apply to all organizational structures but these authors neglect to mention that and confine their argument to the world of work. However, this is only one of several sins of omission as they are obviously well versed in the literature they discuss. These omissions allow these authors to continue to pursue this idea. This refutation of their proposal also corrects several erroneous statements about sociotechnical systems.

Keywords: adaptation; organizational design principles; Participative Design Workshop; psychological requirements of productive activity; sociotechnical systems.

There are no declarations

Brief refutation of efforts to establish a third organizational design principle

The 2013 paper, 'Collaborative capability design: Redundancy of potentialities' and the 2022 paper 'Toward reconfiguring sociotechnical systems design: Digitally infused work systems and the "platform-STS"', both propose a third design principle. This refutation explains why this proposal is theoretically impossible and practically misleading. The second paper also contains several quite erroneous statements about the theory and methods associated with sociotechnical systems.

The possibility of a third design principle, DP3

There is a history to these papers. It began when Fred Emery (1967) discovered the genotypical organizational design principles during the Norwegian Industrial Democracy Program. These design principles revolutionized the whole field of organizational design and what had previously been known as sociotechnical systems, both theory and method.

I know of two previous attempts to find a DP3. The first was made by Ramirez in his PhD thesis (Ramirez 1987) and in subsequent papers on the aesthetics of organization. The impossibility of such a DP3 was explained to Ramirez.

In 2007, they made a presentation to the 2007 Academy of Management conference attempting to outline a DP3 (Baburoglu Oguz N, Ramirez Rafael and Selsky John W (2007) Again it was rejected by colleagues. The 2013 paper analysed here is a slightly revised version of the paper presented in 2007. So now we see that rather than taking these rejections seriously, these authors have ploughed on for yet other attempts to assert the existence of a DP3. Why?

These rejections are twofold:

1. The impossibility of a DP3 as the two design principles and their absence comprise a full set of possibilities
2. None of the DP3s suggested so far are actually design principles for the very simple reason that they are not principles that can lead to a design of anything.

Rejection 1. To fully understand the first of these criticisms we must backtrack a little. The effect of the discovery of the design principles as above was so profound that neither the theory nor the practice as it was at that time would ever be the same again. In 1967 what was generally known as sociotechnical systems consisted of:

- a concept of STS, an organization in which the technical and social systems were jointly optimized, and
- a method called STS or STSD which was used to produce the jointly optimized organization.

Taking the method first, neither Fred Emery nor Einar Thorsrud, the main social scientists in the Norwegian Program and coauthors of *Democracy at Work* (1970 in Norwegian, 1976 in English), ever used STS the method again after the discovery of the principles and the end of the project. They realized its time was over. The Norwegians then experimented with a variety of methods in the shipping industry and beyond while Fred designed the *Participative Design Workshop* (PDW) which was the method used thereafter in Australia and subsequently exported to rest of the world (Emery and Emery 1974).

It was quickly realized that once employees throughout an organization were empowered by the change of design principle (Figure 1), understanding of the design principles and how to use them to redesign their own organizations, there was no point in talking about jointly optimized systems: the employees went further than joint optimization and never wasted any time in changing the technology, sometimes radically, to make the organization as effective as possible. They can significantly change both systems including inventing whole new technological instruments for their work (Aughton 2008b) and come up with bright ideas for all aspects of the enterprise. The language subsequently changed.

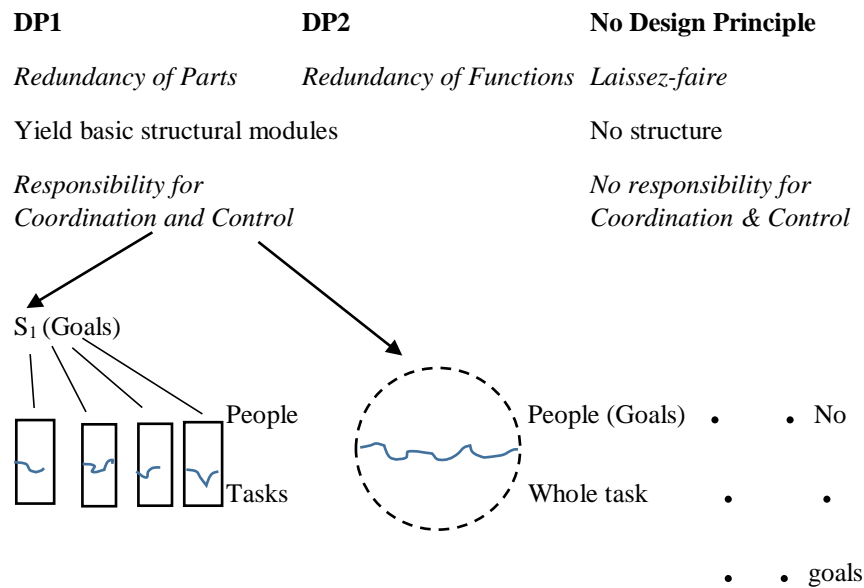


Figure 1. The Genotypical Design Principles and their Absence.

Figure 1 shows the two design principles and the basic modules of the structures they produce plus Laissez-faire, the case where there is no design principle and, therefore, no structure. As we see, the critical feature of DP1 is that responsibility for coordination and control, the two basic dimensions of organizational design, is located at least one level above where an activity is being performed, usually held by a supervisor (S_1) or manager. This means that the people above in the hierarchy have the right and responsibility to tell the people below them what to do and how to do it: it is a hierarchy of personal dominance. People in dominant hierarchies are unequal in status.

The critical feature of DP2 is that this responsibility for coordination and control is located with the people performing the activity. It produces a non dominant hierarchy of functions where people are equal in status. In Laissez-faire there is no such responsibility because there is no coordination or control.

In DP1, there may be individual goals but monitoring and achieving these is the role of S_1 or manager. In DP2, each group has a set of measurable goals for which it is responsible. It is this collective responsibility to control and coordinate themselves to meet, or exceed the goals that partly explains why DP2 produces cooperation and care for the common good while DP1 produces competition and the resort to self interest. Longer term, DP2 contributes to mental wellbeing while DP1 contributes to mental illness (deGuerre et al. 2008). The design principles have many powerful and far reaching effects (Emery M 2008) and the

interested reader can find many papers discussing them on www.socialsciencethatactuallyworks.com.

The evolution of the language and the set of possibilities of a design principle are summarized in Table 1. The old language of sociotechnical systems and design (STSD) has long passed as the design principles and the PDW have brought dramatic changes to the field.

Additionally, not all organizations are sociotechnical: some are sociopsychological where the interface is primarily other people rather than technology, for example schools and hospitals. A few are socioecological. The PDW deals effectively with them all. For all these reasons, and particularly the fact that employees redesign their own show, not experts and/or outsiders, we call the whole operation of redesign *democratization*. This is because responsibility for coordination and control is transferred to the people making the action. This gives them psychological ownership of their collective task.

There are only three cases; the responsibility for coordination and control is located with the actors, it is not or it doesn't exist. *The three cases comprise a complete set of possibilities*. There is no possibility of a DP3. As above, this has been explained to these authors.

Table 1. Summary of Language Evolution and Position of Responsibility for Coordination and Control			
<i>Organization</i>	<i>Autocratic</i>	<i>Participative Democratic</i>	<i>Laissez-faire (None)</i>
Old language: Process: sociotechnical systems design (STS or STSD)	Non jointly optimized sociotechnical* Basic modules are sections of individuals + supervisor	Jointly optimized Basic modules are semi-autonomous groups	Neither
New language: Process: PDW for democratization	DP1 structure Basic modules are sections of individuals + supervisor	DP2 structure Basic modules are self managing groups	No structural relationships
<i>Location of responsibility for coordination and control</i>	Not with actors	With actors	No responsibility

* Where sociotechnical includes sociopsychological and socioecological

So why do these authors not acknowledge that these principles underlie all organizational structures? Why do they not explain that they are describing the structural relations between the people, that as soon as people meet for the first time they start organizing themselves hierarchically, as unequals, or horizontally, as equals, or decide not to have a relationship at all. Organizations can be temporary as well as permanent and the three options as above always exist as potentials. If they had explained these structural relations accurately it would have been more difficult to establish a redundancy of potentialities.

The authors acknowledge my criticism of "complete and exhaustive" (p. 379) but attenuate it to the point where it actually misses the crux of the argument which is the complete set of possibilities for location of responsibility for coordination and control as above. They quote accurately this critical feature of the principles but then ignore it. Why when it is the critical distinguishing feature?

Coordination and control are the two dimensions of organizational structure so responsibility for them must be somewhere. So where is responsibility for coordination and

control located in DP3, with the actors or not? Or is there no responsibility? And of course, as soon as you ask that question, DP3 is exposed as one of the genotypical design principles or Laissez-faire.

Similarly, they discuss the key properties and governing relations of Emery's principles as subjective seriality and asymmetrical dependence for DP1 and complementary seriality and symmetrical dependence for DP2 (p. 383). They then ignore them in relation to DP3. So we may ask what is the key property and governing relation of DP3? Which option is it? Again, this exposes the fact that there cannot be a DP3.

Why do they not use the simple diagram (Figure 1) that shows the structural relations that result from the principles? This is an important question and we return to it below.

In their attempt to define DP3 they resort to some slippery words. First they assert that redundancy (of potentialities?) exists outside the system (p. 384). However, only people have imaginations and create potentials, and it has been shown over and over that they are more creative when organized into DP2 structures than into DP1 (deGuerre et al. 2008; Emery M 2008). However, the creativity is a property of the people, not the design principle.

It is the potentials imagined by people that may exist outside the system, not the redundancy of anything. If it is a design principle of a system, it must be part of the system.

They follow this by "the redundancy includes the ability to take on functions which do not exist within the system at the present time. What is the design principle associated with such a situation?" (p. 384). See what they have done here - they have changed 'redundancy' into a *thing*, something that can take on functions, rather than a superfluity of something. Sounds quite like a person or an organization, certainly not a design principle.

The examples they use to illustrate their DP2 in 2013 expose their lack of understanding of real organizations and the real design principles. The Danish example simply demonstrates excellent strategic thinking by the organization, something competent managers include as a normal part of their work. In the teacher-learner example, their DP3 is simply a great example of DP2 in action, people learning together around shared concerns as discussed in Emery M (2006). No need for any extra design principle.

On p. 386 the language becomes even more divorced from logic and reality as they "find that DP2 tends to be focused more *within* the organization". DP2 doesn't focus on anything, it is a design principle, not a person nor an organization.

If there is any evidence that *people* organized into DP2 structures are more inward looking than those in DP1 structures, I don't know of it. So I googled it and while I found no direct evidence relating to design principle there was some material that suggests that an excessively inward focus is a speciality of the more strict hierarchical organizations, that is DP1 structures. See for example Denning (2011).

The potentialities their DP3 together with their platform organizations (P-STS as discussed below) are supposed to produce are not new and are regularly dealt with by open systems practitioners. These collaborative, inter-organizational organizations can be temporary or more permanent depending on their purposes and generally go under the name of 'ecosystems'. They constitute a major part of the work of the Search Conference, the 2 Stage Model (Emery 1999) and Unique Designs (Emery and deGuerre 2007). Whether it be the need for a commercial organization to pull its suppliers and distributors together or the need for a Search for the future of a national or international issue or an update to an industry strategic plan, practitioners regularly design events for such matters.

So when the authors of the 2013 paper write "However, no one as far as we know has delved into the design principle(s) that underlie" (p. 380) collaborative and innovative trans-organizational situations, they are simply denying their own evidence. On p. 385 they state "The search conference, a participatory planning methodology geared explicitly to DP2, illustrates that DP2 can be and has been extended to extra-organizational situations". They additionally state that in Search Conferences, people work and learn together around *system futures*, that is, potentials or potentialities.

If these authors really understood the design principles they would have realized that these trans-organizational entities become organizations in their own right as soon as the people come together for preliminary discussions. The work our practitioners do for them is to design a learning environment in which the participants pursue their purposes, and explore and choose a design principle if they wish to continue as an organization. In my experience and that of colleagues, they always choose DP2.

As well as these quite misconstrued arguments, some of their 2022 statements about the design principles are seriously misleading. In the context of their P-STS which they define as a platform company which "enables transactions between customers and a set of asset-owning contractors via a suite of protocols and decision rules" (p.73), they state that "Emery's design principles provide inadequate guidance for the design of the P-STS, whether digital or nondigital. That is because in a P-STS contractors to the platform company are often equally as important to the functioning and effectiveness of the work system as employees are....In addition, Emery's design principles are silent regarding the role of the user or customer, who activates the work system by invoking the platform app and by providing data feedback to the enterprise's software engineers" (2022, p. 76).

Baburoglu and Selsky really give the game away in this quote as the entities they are discussing such as customers and contractors are *not* part of the focal organization. They are quite separate entities. The organization has no control over them and there is no necessary relationship between them. *By definition, Emery's design principles or any organizational design principle cannot apply to them.*

They have also ignored the work of the Search Conference as above which has been used in business and other ecosystems since 1959 plus the whole suite of open systems methods as above covering every contingency which could possibly arise.

Similarly, anyone who knows anything about the way organizations function knows that customers have always had an influence on the organization because whether or not they buy a product or service has direct effects on the fortunes of the organization. This is a truism. Yet the authors make it sound as if this relationship is radically different for their P-STS. The differences between a customer investigating a product only to leave it on the shelf and one investigating a product and then clicking 'no' or leaving the digital site without buying, are purely superficial.

Well functioning organizations have always stayed closely in touch with customer behaviour and sought additional data when required. That need fuels the bulk of market research and does not differ to this very day.

Contractors, like suppliers and distributors amongst other entities are a part of the organization's task environment or ecosystem if they become organized into a system. Sensible organizations would seek to have cooperate relationships with their contractors as they would with any members of their task environment. It cannot function well without such relations. Many of these contractors are not sole traders but members of other organizations in their own right.

It is not unusual in a PDW for participants to ask about contractors as they are not a new phenomenon due to digital technologies. If they are particularly worried about relationships with some contractors, they devise an action plan under the 'What else' item in Phase 3 of the workshop. If relations within the ecosystem are not cooperative and working well for all, an organization could call a meeting of the ecosystem, designed as a Unique Event (Emery and deGuerre, 2007). In this event, all members work together to plan the Most Desirable Future of the ecosystem and then design an organizational structure for it.

There is nothing new about any of this. They seem to forget that OST, the name of this body of knowledge, stands for open systems theory and the first Search Conference in 1959 (Trist and Emery 1960) was the first method to include an examination of the extended social field of directive correlations (Emery F 1977), the social environment. Searches are specifically designed for strategic planning so Baburoglu and Selsky's discussion of our need to become more strategically oriented (2022, p. 78) seems a little strange when organizations and communities regularly use OST methods for strategic planning and development.

Again, we see here how irrelevant their DP3 is.

No matter how cooperative the members of the ecosystem are or become, they remain members of the organization that is the ecosystem, not members of the employing organization. Baburoglu and Selsky (pp. 78-79) play with the idea of incorporating the environment into the system as in their P-STs without apparently realizing that if the environment is incorporated into the system, the system becomes closed rather than open. But what they are referring to here is not the L_{22} (Emery and Trist 1965), the extended field of directive correlations but only the organization's task environment, that slice of the extended field closest to the organization. Baburoglu and Selsky merely slide over these matters by referring to the P-STs or ecosystem as an sociotechnical system which indeed it may be if its members decide to have an organization. However, it is more likely to be a sociopsychological organization as it will probably be mainly concerned about the rules for engagement with each other. It may even be a socioecological organization in its own right if its major concern is for example, the impact of changing technology on their industry.

However, no matter how hard Baburoglu and Selsky try to slip and slide around the true nature of their P-STs, the fact remains that most of these members of the ecosystem, are members of this totally separate and discrete organization, not the focal organization.

Rejection 2. The second part of the rejection of this and previous attempts at asserting a DP3 concerns its function as a principle on which to design an organizational structure. If it was to exist, what would be its capacity to produce an organizational design?

"This is where the need for a third design principle becomes evident. DP3 yields an explicit, testable, and examinable design for potentiality, that is, the future potential of the organization and its relations with others relative to its strategy considered from a future point of view" (Selsky et al. 2013, p. 387). So where is this explicit, testable and examinable design? It is not included in any of the following pages. Not only is it missing, the three system requirements and the illustrations they offer are all accomplished by the 2 Stage Model and Unique Designs, all of which have DP2 structures.

Let us assume we are one of their 2022 P-STs and are convinced that DP3 is a possibility. Where do we start? What do we do to achieve DP3? How do we use DP3? What will our organization look like after we have redesigned it on the basis of DP3?

None of these questions is answered in either paper, nor can they be. There are no answers because their DP3 is not an organizational design principle. That is why they never use the

simple little diagram that shows the structural relations between the people in the three conditions (Figure 1). It immediately destroys their proposition by revealing there is no place for a DP3. It is just a collection of empty words. As soon as they tried to draw any sort of business network or consortium, it would look like either a DP1 or DP2 structure.

In the 2022 examples they provide, we find that what they were designing in Satellite Healthcare for example are operating procedures or protocols to ensure treatment is patient centred. Designing operating procedures for improved patient or customer experiences is ubiquitous across the business world as organizations fight for their market share of customers of every variety. *This is not organizational design. It is design of a process. Renaming something does not change its nature.*

None of the other examples provide any guidance as to the design of an *organization*. Their brief description of Wikipedia with its "strict managerial hierarchies" (p74) sounds just like a DP1 structure. This quite repetitive second article is very strong on assertions but light on operational or rigorous definitions and entirely missing examples of a third form of organization built on a third design principle. It is in fact ill-conceived and social science by semantics, words only, in the worst possible tradition of abstract universals (Emery M 2000).

Erroneous statements

1 Subordinating human welfare and wellbeing to organizational efficiency. One can only wonder what led Baburoglu and Selsky to use Moldaschl and Weber's (1998) statement "that STSD 'subordinat[es]... human-centered criteria to the dictates of efficiency' (p. 361) and contributes to what in effect is a technological determinism" (p. 64). They continue (p. 64): "Critics believe that STSD, by largely accepting the advance of new technologies in work systems and then adapting the social relations to those technologies, has undermined the joint optimization aspiration of the STS founders".

Obviously there are some still practicing that anachronistic museum piece, the method called STS(D) and its variants which may have these effects if they do not include the six requirements for productive activity as below, but the appropriate method of organizational design and redesign today, used around the world is the PDW, designed for the current Type IV environment.

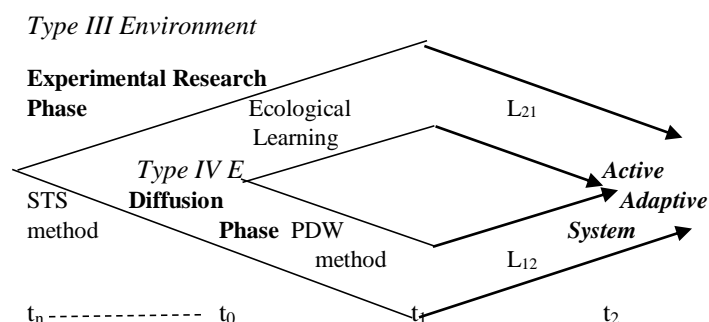


Figure 2. Conceptual and Methodological Maladaptation in USA

Figure 2 (Emery M 1997) explains why the old method STS is an anachronism and cannot fulfil the hopes of its users. It shows that STS which consists of:

- theorizing in terms of DP1 organizations for an L₂₂, Type III environment (Emery and Trist 1965) and,
- practicing a method, the usefulness of which finished with the completion of the Norwegian Industrial Democracy Project (Emery and Thorsrud 1976)

is not adaptive and can't produce a desirable adaptive future. It is an instance of a function exceeding the back reference period of the directive correlation where the back reference period is $t_1 - t_n$ rather than $t_1 - t_0$. In other words, it is designing for a world that no longer exists. Such a continuing response in terms of both old inappropriate theory and practice can only increase the distance between an active adaptive system in the Type IV environment and the state of systems produced by such responses (Emery M 1997).

In terms of theory and practice, some social scientists are ignoring the rest of the world and living in the past. To be effective, they must go back to basics and catch up with 50 years of progress before they can move on.

While Figure 2 explains the adaptive relationship of the PDW to the environment, once in, and after the PDW, every employee of the organization can act adaptively. This is because changing the design principle to DP2 empowers them to make any change that will improve their wellbeing and that of the organization. This they do wholeheartedly as all recorded results show (Emery M 2008).

Their wellbeing is firstly measured by the '6 criteria', that set of psychological requirements humans have of a productive task which was published as a set for the first time in 1969 (Emery and Thorsrud 1969, 1964 in Norwegian). They are presented right up the front in every PDW where they are rated by the people themselves and analyzed to show just where the DP1 structure is failing its people. When the people who work there redesign their own sections of the organization they check to ensure they will have the best possible scores on every criteria.

They are also the major determinants of intrinsic motivation and it is difficult to get good scores on the 6 criteria from DP1 structures, even when people appreciate their extrinsic motivators, their good hygiene factors. Norway deemed the 6 criteria sufficiently important to encode them into their work environment law in 1977 (Gustavsen 1987).

The six criteria are:

1. Elbow Room, optimal autonomy in decision making
2. Continual Learning for which there must be
 - (a) some room to set goals
 - (b) receipt of accurate and timely feedback
3. Variety
4. Mutual Support and Respect, helping out and being helped out by others without being asked, respect for contribution rather than IQ for example
5. Meaningfulness which consists of
 - (a) doing something that society values
 - (b) seeing the whole product or service to which the individual contributes
6. A desirable Future, not having a dead end job. (Adapted from Emery and Emery 1974).

How could Baburoglu and Selsky as students of open systems overlook all this when they repeated Moldaschl and Weber's (1998) statement?

On top of this, OST practitioners have regularly published the effects of the design principles and organizational structures on other aspects of human wellbeing, including their prevailing affects plus mental and physical health, going back decades plus some recent examples (Emery and Aughton 2006; deGuerre et al. 2008). Baburoglu and Selsky also attended Don deGuerre's presentation of this 2008 paper at the Academy of Management

symposium on *New Directions in Socio-ecological Thinking: Legacies of Emery and Trist* in 2007.

2 Technological determinism. Throughout the paper there are some wrong statements made about the design process. On p. 69 they quote Lisl Klein (2014, p. 138) to the effect that the technology had to be accepted in STS. In the long quote from Klein, she does not give an example. They also refer to McAfee and Brynjolfsson (2017) stating that "the prevailing assumption in STSD is that technology is given, and people must adapt to its relentless advance".

These statements are quite wrong. Right from the birth of sociotechnical systems (Trist and Bamforth 1951), the breakthrough was the realization that technical and social systems needed to be jointly optimized to obtain the very best solution for people and organization. What does this mean if not modification of both these systems?

Again, perhaps there are some very shonky practices called STS out there but they provide no examples. Again, a perusal of the most appropriate method, the PDW, demonstrates that these statements have never been true of this major method or its results. In some PDWs participants spend a lot of time analyzing the technical system, changing it or trying to work out its problems and correcting them. For example, the PDW for the Qantas Care Team at Telstra spent days working out how to effectively coordinate 124 sites, 450 Cisco and 30 Nortel devices, a multitude of different technologies, personnel and silos across all Qantas installations (Aughton 2008a). And once DP2 is in action, people often make radical changes to their technology to increase the effectiveness of their work. For example, operators at J Robbins developed their own polyurethane moulds, a new technology for them in which they gained significant expertise and then sold as a diversified product (Aughton 2008b; James 2007).

It is true that it can be difficult and expensive to significantly change some technology but when the people who work in an organization are genuinely empowered to find improvements they do, and frequently they have been wanting to make those changes for a long time.

3 Nonroutine, office and 'knowledge' work. On p. 68 Baburoglu and Selsky claim that "Cal Pava (1983, 1986) initiated the reworking of the industrial STS model for nonroutine, office-based knowledge work". Whatever these authors, and others, believe, office work was being redesigned along with every other type of activity as early as 1973 when the Department of Overseas Trade personnel office redesigned itself with error rates dropping rapidly from an average of 40% per pay to 3% (Gorrie 1975). Many others followed including such diverse sites as the complaints department in Telecom North Shore and the Centre for Continuing Education at ANU in 1973 (Emery M 1988).

There is an old saying in the trade: 'We have never found a technology yet that the PDW couldn't handle'. I know of no problems encountered with digital technologies.

Incidentally Baburoglu and Selsky's efforts to divide work organizations into different classes is quite misconstrued for various reasons. Most organizations have a mixture of operational departments using everything from office work including managerial offices to heavy industrial to research labs to computer installations. Emery (1988) as above shows some PD workshop designs suitable for such a mixture of diverse sections so that they may learn from each other in the one workshop. And every single one of them relies on employees

using their knowledge and skills to make them work well. *The whole idea of 'knowledge work' is discriminatory and objectionable.*

4 *Imprisoned in the world of work.* It was very clear right from the discovery of the design principles in 1967 that they applied to every organizational structure, not just those of workplaces. They operate throughout society, underlying everything from families, informal voluntary organizations and political or governance systems in the same way as single work organizations of all types. DP1 yields representative democracy, DP2 yields participative democracy. As above, organizations can be temporary or more permanent so meetings also have an organizational structure.

This recognition freed up the whole field of open systems including those variants that had been called sociotechnical systems, although the emphasis on workplaces continued for some time. The capacity to register DP2 designs as the legally binding form of organization through enterprise bargaining agreements was probably the final step (Emery F 1992).

The focus of redesign work had begun to shift to the broader sphere during the middle 1970s, for example when Fred Emery put his efforts towards participative democratic governance (Emery F 1974, 1976, 1989). This opened up new possibilities for governance around the world for all sorts of organizations such as voluntary ones and boards of directors.

The development of the Search Conference and all related technologies such as Unique Designs continued throughout until again all major faults seemed to be eliminated and all possibilities covered. The design of the PDW for designing from scratch was a part of this opening the way for the 2 Stage Model (Emery M 1999). It was necessary to ensure designs were as fool proof as possible, free of major theoretical and practical traps and not contaminated by the mixed mode, a mixing or alternation of the design principles.

Conferences and meetings of all types continued to be a major concern as they are also a ubiquitous phenomenon of life, also one littered with problems and disappointments. Redesigning conferences to be productive and rewarding has proven to be a fruitful endeavour (e.g. Emery M 1999, 2021). None of this would have been possible if we had been stuck in the world of work.

Why do these authors only ever refer to workplaces? They are not ignorant of the work of the Emerys and other OST colleagues.

Why are all these erroneous statements included in this 2022 article? They do not enhance their arguments for DP3. The authors also seem to have forgotten that as early as 1959 Fred Emery wrote in an extended discussion of enterprises as open systems that "An enterprise is responsive to the joint action of its immediate material and human means and resources and to a broader social environment. The particular form of wider environment influence that is illustrated here is its effects on the ends of the enterprise" (Emery 1959, p. 40). In other words, all enterprises, now organizations, are open systems with a necessary multitude of potentials whether the primary interface of the people is with technology (sociotechnical), the environment (socioecological) or other people (sociopsychological).

Conclusion

It is disappointing that once again these authors have chosen to re-present the idea of a DP3. No amount of verbiage can disguise all the various mistakes and irrelevance built into their arguments. The rejection is simple and straightforward but the continued attempts to establish the existence of a DP3 are anything but. The arguments are convoluted, sometimes

contradictory and totally miss the mark, somehow failing to apply the tests that would determine validity of DP3.

Just as telling as the lack of conceptual validity is the lack of evidence as none of their examples holds up under analysis. Nor do they produce any of their own for the obvious reason that it is impossible. Pity any organization that could be so misguided as to try and put this mythical DP3 into practice.

The discovery of the genotypical design principles was preceded by decades of integrated theory and experimentation. This effort could not be more different. The whole project is a failure so let us have no more of it.

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