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Principles of positive sum design

Ian Gonsher[1,✉], Will Rutter[2], Arthi Krishnaswami[3] and Ruth Schmidt[2]

[1] Brown University, USA, [2] Illinois Institute of Technology, USA, [3] Carnegie Mellon University, USA

✉ ian_gonsher@brown.edu

ABSTRACT: The notion of "zero-sum" games describes situations characterized by scarcity and competition. Reframing these situations to yield more positive sum scenarios benefits from design strategies that can identify new sources of value, oriented toward out-comes that reward collective benefit over maximizing one's individual strategy to win at others' expense. This emergent practice, called Positive Sum Design, identifies and critiques the conditions that contribute to zero-sum bias in the interest of creatively reframing challenges and redesigning scenarios to encourage more cooperative strategies and pluralistic values. Positive Sum Design can be thus characterized as both a cultural critique and a set of creative practices applied toward that critique to help practitioners identify opportunities for transcending presumed constraints and transmuting zero sum games into non-zero-sum ones.

KEYWORDS: design process, design theory, design practice

1. Introduction: positive sum design as critique and practice

Design determines the kinds of relationships that are possible between stakeholders in a given context, and it sets the rules for how those relationships play out. When we see the world in terms of scarcity, competition, and immutable constraints, we see it as a zero-sum game. The manner in which these pervasive biases shape, and often limit, our attitudes towards creative problem solving impoverish our ability to develop novel and useful solutions: the limitations we impose on design give shape to the world, establishing the conditions of possibility, and setting the stage for how we encounter each other. There is, however, an alternative. Positive Sum Design offers stakeholders and design practitioners a critical framework and a creative process with which to transcend these assumed constraints: when wins and losses are not constrained by one another, new possibilities emerge, and failures of imagination become far less likely (Von Neumann & Morgenstern, 1944). By recognizing opportunities that lay beyond the assumed constraints, we can learn to transmute zero sum games into positive sum games. In this paper, we propose a model for understanding and cultivating a Positive Sum Design approach that allows designers to examine and critique conditions of choice, value, and constraint, employing appropriate design practices that are consonant with the given context to achieve beneficial outcomes and generate new forms of value across stakeholders.

2. Critique of zero-sum bias

The term "zero sum game" is borrowed from game theory to describe situations in which gains for some players come at the expense of others: a win/lose game. In American football, for example, when one team loses yardage, the other gains the equivalent amount. By contrast, a non-zero game does not constrain wins and losses (Pinker, 2012). All players might win (a positive sum game that increases aggregate value), or all players might lose (a negative sum game that decreases aggregate value), or the game may end such that aggregate gains and losses are more or less than the fixed stakes.

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"Zero sum bias" describes having the perception of fixed value and competition for scarce resources, even when conditions might allow for abundance and affordances for communication, coordination, and collaboration. As a result, zero-sum thinking tends to inhibit creativity and the ability to synthesize perspectives, reducing our ability to generate useful possibilities or applicable solutions to a given problem. Failing to critically address this deeply ingrained bias limits both interactions between potential collaborators and the production of communal value (Meegan, 2010).

Analyzing these apparently zero-sum situations benefits from considering scope and context, which can uncover opportunities to shift the incentives in social dilemmas to arrive at communally beneficial outcomes (Ostrom, 1998). The example of the Prisoner's Dilemma—in which self-interested parties tend to choose the worst collective outcome in a one-time instance—may instead result in cooperation when the game is played repeatedly by the same players, due to a shift in incentives and the recognition that maintaining social norms over time represents a benefit (Axelrod & Hamilton, 1981). Similarly, a zero-sum game at one level of analysis may enable positive-sum dynamics at another level; if everyone loves playing football, players may enjoy a positive sum outcome at the level of participation despite one team's loss coming at the expense of another team's gain.

But while stakeholders tend to benefit from playing positive sum, win/win, games in the long-run, we don't always recognize them as such. Zero-sum games may be far less prevalent than our assumptions lead us to believe. Where they do exist, they tend to have deleterious effects on cooperation and coordination, and lead to impoverished outcomes for all stakeholders (Andrews Fearon and Götz, 2024). On a societal or global scale, for example, efforts to address climate change or maintain stable international supply chains are grounded in shared interests, and yet present-tense, individual interests tend to prevail. But just as countries that trade with each other tend not to fight each other; we may overlook hidden-in-plain-sight examples of more prosaic positive sum opportunities for peaceful and profitable interactions on an interpersonal scale when we obey traffic laws or exchange money for desired goods or services. Through critiquing implicit constraints or perceptions of scarcity to embrace an orientation toward growth and abundance, designers can actively cultivate positive externalities and conditions that support positive sum outcomes for individuals, institutions, and societies.

3. The allegory of the pie

Imagine a restaurant where the staff create meals that are works of art; where the dining experience is a product of the satisfactions of their labor, and the food is crafted and served with care, empathy, and joy. The patrons take similar satisfaction in the experience. The food nourishes their bodies as they nourish each other's spirits in the easy flow of dinner conversation. They consume the meal with gratitude.

Design practice consists of a series of choices, full of intent, each of which creates affordances for behaviors and the value and meaning they produce. Start with the obvious: how the design of the table sets the stage for the meal. The shape of the table constrains the placement of the utensils and the plates, the salt and the pepper shakers, the glasses of water and the folded napkin that is places on your lap when you arrive. Consider the design of the restaurant, and the way it shapes the experience: the behaviors and interactions of the staff and the patrons, and the goods and services that are produced, exchanged, and consumed. Consider how these things and all the other accouterments of the meal create affordances for zero sum or non-zero-sum behaviors: you share the salt and pepper but not the forks. This is a deliberate choice. Design provides these options and sets the rules of the games to be played; it defines the way stakes are framed and negotiated between players; about the way the rules organize conditions that support those behaviors, and who and what are excluded. As such, design—and designers—can shape these experiences by establishing the affordances for positive sum games.

Perhaps this particular restaurant is famous for its apple pie. But it's late in the evening, just prior to closing, and only two parties are still finishing their meals. They are about to order dessert, only to discover that there is just one pie left. The first impulse might be to divide and distribute the pie equally between both parties. But this strategy assumes that everyone wants pie equally, when in practice, some will want pie more, and others less. Some may have enjoyed a full meal and prefer no pie at all, and others still might prefer an option that has not yet been presented: a piece of fruit or a cup of espresso. The impulse to distribute the pie equally between all the diners arises from the very rational desire to accommodate everyone equally. However, this strategy also presumes that providing identical pieces of pie to each patron produces the best outcome. In doing so, it overlooks what the players in the game actually want or need and unnecessarily constrains the rules of the game.

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When the measurement of value is limited to a single metric or when a problem is constrained too rigidly, we fix ourselves within a logic of scarcity. But when we default to this kind of zero-sum strategy, we also risk becoming blind to the opportunity costs associated with failing to find other ways of satisfying needs. Finding opportunities to satisfy the needs of everyone present requires opening our eyes and minds to alternative conceptions of what to measure, what matters, and to whom.

The design of the restaurant establishes the affordances for how the patrons coordinate—or fail to coordinate—their behaviors. The menu, the table and the chairs, the plates and the silverware, and all the other designed elements in the restaurant set the stage for the possibility of competition or collaboration. These design elements may obscure opportunities to recognize the multivalence of utility and the mutability of constraints, or they may center them within a discourse between stakeholders, allowing everyone to play, and win, a positive sum game.

4. The mutablity of constraints

In the context of zero-sum and positive-sum games, asking "What kind of game should we choose to play?" is both an ethical question and a design question. While sometimes a zero-sum strategy is appropriate and necessary, these situations may be less common than we assume. Critiquing the constraints that impose a sense of zero-sum bias provides a necessary starting point for "reframing the game" by identifying opportunities to think beyond the constraints we've accepted to be immutable.

For example: A game can play within established constraints, or beyond them. When no player can gain without another losing within given constraints, the game is said to be Pareto Optimal, whereas a Pareto Improvement occurs when one player can be made better off without making another player worse off, under the same conditions. In some cases, the use of lateral or divergent thinking may open categories of possibility that had not been previously considered, leading us to discover that the constraints are not as fixed as we first accepted (Gonsher, 2017). As a result, we may find opportunities for Pareto improvements in systems we assumed to be Pareto Optimal, and discover new paradigms for meaning, value, and justice that produce abundance across stakeholders.

In addition, perceived constraints tend to lead to so-called "rival outcomes" or "rival value," in which consumption by one entity reduces possible consumption for another due to the presumptive, strict regime of fixed potential value to be divided amongst interested parties. When examined more critically, however, we may find that value is constrained far less by material facts or physical limitations that might rise to such a regime, than by the conceptual frameworks—the ideas and knowledge—that situate the usefulness and meaningfulness of a given design within an appropriate context. The design process itself, for example, is non rival, given that "once the design is created, it can be used as often as desired, in as many productive activities as desired." (Romer, 1990, 4) This is true not just of design, but of technology, as he goes on to say: "Once the cost of creating a new set of instructions has been incurred, the instructions can be used over and over again at no additional cost. Developing new and better instructions is equivalent to incurring a fixed cost. This property is taken to be the defining characteristic of technology." (Romer, 1990, 2)

This suggests that better, more thoughtful design can challenge stakeholders to consider non-rival (or even anti-rival) value. Non rival value is value for which consumption by one entity does not preclude or affect consumption by another; for example, knowledge or education is a non-rival good in that one person understanding and learning an idea does not impede another person from learning that idea as well, nor does it diminish its value (Romer, 1990). Anti-rival value, by contrast, is characterized by instances in which one stakeholder's engagement with or consumption of goods or services increases the amount of value for others (Weber, 2004). This can be seen in social media networks or resources such as Wikipedia; a social network with a single person is worthless, but its value grows as more people use it. Similarly, production of knowledge gains in value as more perspectives increase and advance an understanding of a domain or the relationships between domains. Anti-rival value is the superfood of positive sum systems, making the identification and cultivation of these opportunities essential to the practice of Positive Sum Design.

Finally, all forms of value—both rival or non-rival—can be further specified through their degree of access, or excludability, in which an intentionally inaccessible good or service is excludable, whereas a freely accessible good or service is non-excludable. Both designs may have positive sum affordances. Software, for example, creates non-rival and non-excludable value: use by one party does not fundamentally preclude or devalue use by another party. Open-source approaches to software licensing embrace the non-excludable character of software, which lead to significant positive sum value through

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widespread adoption. Proprietary or closed-source approaches to software licensing, on the other hand, create positive sums through socially-constructed and enforced schemes of excludability that incentivize further creation of useful software for the market. From a design perspective, an increased degree of excludability can therefore powerfully affect, negatively or positively, the scope and context of the positive sums enabled by a design.

5. The multivalence of utlity

Economists use the term "utility" to characterize the desirability of goods and a way to measure preferences: how much we want what we want. Positive Sum Design asks the next question: Why do we want what we want? Questioning our underlying motivations may lead to realizations that simple "utility" is more complex and multivalent than it initially appears. Our preferences may be constrained by normative assumptions about value, the influence of advertising, or social pressure. In addition, not all utility can be reduced to a simple medium such as money; we may find that some forms of capital, such as social capital, are not as strictly fixed against underlying material conditions. Expanding our conception of utility can subsequently lead to satisfying our needs—and those of others—in more expansive and creative ways that shift our goals from competition to collaboration and coordination. This is where design, and designers, can offer a set of critical tools that "reframe the game" by recognizing the multivalence of utility: offering potential alternatives, establishing the conditions in which stakeholders navigate the production of shared value, and providing design practices that allow for the development of those conditions.

People play games in different ways, with myriad strategies played out by different stakeholders with different motivations. Positive Sum Design borrows the modes of representation of game theory—such as payoff matrices—to help designers imagine, reconsider, and redesign how these complex scenarios might play out: how might the manner in which the given options have been presented, or how the stakes of a particular game meet stakeholder needs, be altered to liberate stakeholders from constraints of their existing prejudices and biases, and recognize abundance where they formerly saw scarcity.

To accomplish this, Positive Sum Design borrows the modes of representation practiced by designers, employing design processes and strategies that concretize various outcomes and allow designers to develop concrete prototypes that can be critiqued and further iterated upon. This might mean employing structures such as visual representations to catalyze creative thinking that might satisfy needs in different ways, creating stories that give reality to the context of a problem, or developing user scenarios that map out how a given design might be used. Visually representing these possibilities gives designers valuable and diverse vantage points that supply an empathetic understanding of users' experiences, places those experiences in a broader context, and uses these insights to design "affordances"—or the relationship between a user and an object or environment that shapes what a subject perceives to be possible and provides possibility for a behavior (Gibson, 1977)—to increase the chances of positive sum outcomes. Through designing for affordance, Positive Sum Design extends beyond physical considerations, such as the fit of an object or environment to the body, to address the psychological opportunity space supplied by design, and subsequently to elicit value that may not have been perceived when in a more limited problem framing.

6. Affordances for trust and communication

Stakeholders can coordinate their behaviors both directly and indirectly. In some cases, behaviors can emerge through affordances for behaviors inherent in a system. But stakeholders can directly act on each other as well. Whether it is through direct communication with each other or in the emergent behaviors that are built into the system in which these stakeholders operate, designing for communication and trust allows for greater coordination and cooperation. Careful design consideration can be given to the ways communication and trust play out within these collaborative interactions (Gonsher et al., 2025).

Given designers' need to address a plurality of value to achieve these communally beneficial outcomes, methods that explore issues of trust amongst stakeholders are also fundamental to Positive Sum Design. For example, designers can incorporate the use of assurance games as methodologies for increasing trust between actors (Rheingold, 2005). One such example from game theory is the Stag Hunt (Rousseau & Cranston, 1984), which, like the Prisoners' Dilemma, provides a non-zero-sum model to examine the relative payoffs and risks of coordination and competition.

The scenario goes something like this: You and a fellow hunter are out hunting game. You're hungry and getting hungrier. A stag will provide enough meat for both of you to eat well, but will also require both

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hunters to coordinate their behavior so as not scare off other approaching stags. Alternatively, rabbits are abundant and can be hunted alone, but will provide less meat. In addition, shooting a rabbit risks scaring away the bigger game, resulting in a situation where neither party reaps the bounty of a stag.

Coordinating your actions, based on common assumptions and implicit or explicit communication, will result in a better chance of sharing a stag. However, diminished trust that the other hunter will restrain themselves from going after rabbits—and subsequently quashing your chances to win a stag—tends to cause both hunters to defect. This scenario results in two theoretically stable outcomes, or Nash equilibria (Nash, 1951): one where both hunters cooperate, and one where both defect. The challenge is to design into the situation affordances that direct the players towards the former. This is not just a design question, but an ethical one: if Positive Sum Design suggests that the most equitable solutions to complex problems are rarely found in zero sum games, it also reminds us that an ethical design stance demands looking beyond perceived constraints. When we reframe the game, we create more value for everyone.

The education sector—in which the means of production and creation of anti-rival knowledge is typically seen as limited by assumed resource constraints driven by a competition for scarce dollars, teachers, services, and support—provides an example of inherent zero-sum bias. Traditional conceptions for student and support funding prioritize data-driven outcomes to demonstrate improvement in academic and behavioral variables (Means, Padilla & Gallagher, 2010). Systems rarely have mechanisms to capture data related to the complex inputs that comprise academics and behaviors. As a result, definitions of success often focus on outcome-oriented variables, such as costs for ancillary services, reducing out of school placements, reliance on the home to serve the basic needs of students, test scores, and decreases in negative behavior such as suspensions and expulsions. They also reflect an underlying zero-sum bias that positions the ability to achieve these outcomes within conditions of competition for dollars, services, and time to support and enrich each student.

Reframing the student experience across other metrics for learning can help us explore the multivalence of utility and may reveal other forms of value that can be cultivated beyond the assumption of a Pareto Optimal system. For example, non-financial investments, such as social capital, can enhance the student experience through building communities of trust. This is further supported by extensive research that emphasizes the importance of social, emotional, and behavioral aspects of K-12 education on future adult outcomes (Bruns, Suter, Force, & Burchard, 2005). In communities with social capital and financial means, these relationships and holistic services are coordinated by parents and families. In at-risk and underserved communities, educational experiences are limited both for students and parents, and families lack the knowledge to support children in complicated contexts and situations.

Building conditions for positive sum outcomes include increasing opportunities for these stakeholders to come together to define new and expanding forms of value—which includes social capital, relationships, community network building, safety, increased investment, and stability required for improved educational outcomes in addition to financial capital—for their communities. As such, communities of trust are networks of relationships grounded in the legal, technical, and human agreements that facilitate the exchange of data about and among stakeholders in a safe, secure, transparent, and auditable manner, rather than having it defined externally by funders and compliance-oriented regulations. In order to achieve these beneficial network effects and support positive stakeholder outcomes, the game must be reframed in a way that expands the definition of capital and value. In short: reframing the community of trust in education as a positive sum game enables stakeholders to define value together, allowing them to develop the necessary social capital and knowledge can help stakeholders capture non-rival and anti-rival value.

This is not always easy, and there are several reasons why systems may resist the cultivation of communities of trust. In some cases, such as the tragedy of the commons (Hardin, 1968) or in rival good, stakeholders have competing interests over scarce resources; in others, such as the Prisoners' Dilemma, the system obscures value and limits knowledge, or is otherwise characterized by knowledge scarcity, incomplete information, or impediments to communication between stakeholders,. Critiquing the zero-sum assumptions that perpetuate these inequalities, on the other hand, can increase the potential for outcomes for communities to create and recognize new forms of value.

7. Positive sum design as design practice

While Positive Sum Design might be seen as a variation on Human Centered Design that pays special attention to the unique, interior experience of the individual "user" (Norman, 2013), it also takes a humanity centered approach by orienting individuals' experiences in relationship to others and within systems and societies. In searching for optimal means by which to produce the best possible outcomes for

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the most, if not all stakeholders, Positive Sum Design builds on established design pedagogies and creative strategies to apply a Utilitarian or Consequentialist scaffolding to the design process as it strives to recognize the multivalence of utility, the mutability of constraints, and build communities of trust.
As design practices tend to move iteratively from the abstract to the concrete, designers employ different modes of representation to translate and develop abstract concepts into testable prototypes that can be deployed and iterated upon. Positive Sum Design benefits from, and builds upon, many of the strategies common in design practice today.
For example, designers often employ user scenarios to concretize and narrativize the role of a "user." Like all fictions, these scenarios are essentially stories that ask questions to set the conditions of possibility: who, where, what, and how? Who are the users, stakeholders, or players? They also situate activity: In what physical and social context do scenarios take place? What are the conditions for the story and the rules of the game? What is the meaning or purpose of the story, and what is at stake? Design processes often center on cultivating stakeholder empathy to better understand their underlying motivations: What matters to them, and what drives their behavior? These kinds of questions help designers and stakeholders create traditional user scenarios, which can be critiqued and iterated upon. Collectively, they create the structure and territory for play: design is a story, and a story is a game.
Designers can also draw upon game theory to represent the interactions between players; for example, payoff matrices can help designers work out how different stakeholders might gain or lose as a function of constraints within a given user scenario. Those constraints can then be critiqued and reframed to iteratively explore more optimal outcomes. When combined with storytelling and other design methods for building user scenarios, these new possibilities can emerge.
Combining these disparate approaches requires a synthesizing mindset, making designers well suited for this task both by training and temperament. This act of synthesis is akin to alchemy that also occurs over time: transforming an observation into a conversation, which is translated into a sketch, and then made physical in the form of a model or a prototype to be critiqued and iterated upon further. Design, at its essence, is a mode of inquiry that requires cultivating awareness and varied perspectives to generate new solutions to old problems. Each iteration of a design is an opportunity to ask the community of stakeholders and designers a new question, which employs a different way of representing the concept with greater fidelity and refinement. Each iteration is an opportunity to create value for all stakeholders by translating stakeholder experiences into tangible representations that facilitate collaboration and critique by giving shape to our shared reality.
In addition to the framework presented in this paper, design methods are also being developed to validate the efficacy of these strategies (Krishnaswami et al., 2024). In one such exercise, students were asked to redesign the experience of waiting in line. Waiting in line can be characterized as a zero-sum game, in which one is forced to spend time—a fixed, scarce resource—at the expense of other potential uses. A designer might employ a variety of strategies to create an improved experience when asking people to wait: The wait could be sped up by looking for efficiencies, or the experience could be enhanced, making the wait an end in itself. If time were to be reframed, not as a constraint, but as an opportunity, what would be the effect? These exercises demonstrate that a creative approach to reframing the given conditions can create affordances for a better experience for all.
Just as design is grounded in the ability to see and build something new, a goal of Positive Sum Design is to enhance designer and stakeholder awareness, their ability to question norms or perceived constraints for behavior, and to construct new affordances for greater communal or aggregate value. Often, these implicit infrastructures are hidden in plain sight. Once there is awareness, that awareness can be shared and shaped. The tragedy of the Prisoners' Dilemma is the inability for stakeholders to recognize mutual benefit and coordinate their behavior, producing negative sum outcomes. The triumph of the Stag Hunt is the affordance for coordination, communication, and trust that produces more value for all.

8. Availability bias and divergent thinking

Bias, such as zero-sum bias, can limit one's ability to recognize affordances for positive sum outcomes. Like zero-sum bias, availability bias, as introduced by Amos Tversky and Daniel Kahneman, can also play a significant role in impoverishing the ability of stakeholders to think creatively and generate shared value (Kahneman, 2011). Availability is the ease with which relevant instances of a given category come to mind, and it has profound consequences for the creative process.
In one study by Tversky and Kahneman, subjects were given lists of names to remember including both famous names and less famous names (Tversky A., & Kahneman D., 1973). The famous names were

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more easily recalled. The prior experience of the subjects had primed them to give prominence to the famous names, which could be more easily remembered at the expense of the less familiar names. The problem this kind of bias poses for creative problem solving was succinctly articulated by Abraham Maslow, who famously wrote, "I suppose it is tempting, if the only tool you have is a hammer, to treat everything as if it were a nail" (Maslow, 1966).

Availability bias impedes the ability to think divergently and can lead to creative blocks as the mental archive of relevant examples is exhausted. There is a tendency to recall only what easily comes to mind. There is a tendency to empathize only with those that one identifies with. To put it simply, one tends to recognize what is most familiar, at the expense of the bigger picture. Availability bias inhibits facility in generating many, different approaches to a problem or a question, which is extremely important to the design process. Recognizing value beyond the initial conditions is essential in the cultivation of greater aggerate value for all stakeholders. These kinds of biases can distort perceptions in a given situation, presenting it uncritically as fixed and immutable, and leading to zero-sum outcomes.

Divergent thinking is something of antidote to this problem. Divergent thinking is fundamental to robust ideation. It is the process by which one identifies as many different responses to a question, problem, or situation as is possible (Guilford, 1956). Divergent thinking benefits from diverse perspectives. It is a powerful tool for overcoming zero-sum bias and availability bias towards positive-sum outcomes. Bias towards what is familiar and memorable limits our ability to find novel and useful solutions that take into account the experiences of all stakeholders. Positive Sum Design employs strategies that broaden the ways the needs of stakeholders can be met and expands the criteria to meet those needs. Divergent thinking is one such strategy.

This is especially important when considering the perspectives of others, which when harnessed by an iterative design process, can offer a wider range of options for creating mutual benefit and value. Empathizing only with those one identifies with narrows the available options, which can impoverish all stakeholders. Cultivating divergent thinking can provide the designer with the sufficient escape velocity to break away from the gravity of the status quo and discover new ways of coordinating behavior and generating value. Convergent thinking – searching for the correct or most optimal solution to a problem or answer to a question is also important to the creative process - but divergent thinking plays a special role in overcoming availability bias and zero-sum bias. Creative thinking in general, and divergent thinking in particular, can be powerful strategies for developing affordances for communication and trust, expanding utility, and challenging the immutability of constraints.

9. Can design be post-political?

All design strategies, including Positive Sum Design, cultivate and apply creativity within a structured process to produce outcomes that are both novel and useful (Kaufman & Sternberg, 2010, Sawyer, 2011). This process frequently manifests through the behaviors of the individual, which are commonly understood and described in terms of the psychological development of the subject. The work of the artist or innovator is a familiar example of this trope.

Creativity can also be understood as a historical process that draws on the precedent of Heraclitus and Hegel to analyze the creative process as a historical dialectic (Hegel, 1979, Gonsher, 2022). This creative dialectic delimits perceptions of usefulness and novelty within a given context, and subsequently frames the conditions of possibility—this can only be understood in terms of that, and that can only be understood in terms of this—in which each defines the other through binary opposition.

Creative inquiry, in the form of design, considers the possibilities that exist within these constraints to uncover these novel and useful opportunities, employing a critical process that generates new solutions to old problems. There are many creative ways to play the game of dividing a pie, if pie is what you want. Positive Sum thinking posits, instead, that we can choose other options beyond the pie when we recognize them; rather than moving within the given constraints, we can also move beyond the given constraints to reframe the game. Both as a historical process and as a manifestation of the individual subject, creative process can shift paradigms by reframing the mutability of constraints towards the multivalence of utility.

Zero sum bias burdens the creative process by locking stakeholders and designers into their own availability bias, drawing from a reservoir of familiar ideas to solve problems they have confronted before with the knowledge they already have. Positive Sum Design recognizes that even scenarios that may seem competitive can produce positive sum outcomes: it is in the push and pull of new ideas rubbing against, or even in opposition to each other, that the conditions of possibility can be expanded

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to achieve a greater understanding of possibility. If creativity is a dialectical process—historically and culturally, and as a creative process and design practice—then the tensions that emerge from the dialogue between seemingly divergent perspectives are at the core of advancing understanding, catalyzing the imagination, and opening up new paradigms by giving stakeholders a broader sense of what is possible. Positive Sum Design is often agonistic, but never antagonistic (DeSalvo, 2012): an ongoing, relentless confrontation that is simultaneously respectful, thoughtful, and open-minded. The goal of Positive Sum Design is not necessarily harmony between stakeholders, but rather a kind of collaborative participation in a common process that expands understanding despite, even because of, conflicting perspectives.

While this kind of debate may still echo through the halls of academic institutions and underlying scientific literature, it is increasingly absent from political discourse. In political terms, the Left may be defined by the Right, and the Right defined by the Left: each mutually defining each other, constraining the stakes to enforce a zero-sum regime. By doing so, the possibilities for addressing urgent social challenges become impoverished. The current political climate has become, almost by definition, a zero-sum game (Wright, 2000). Can Positive Sum Design offer an alternative, a creative paradigm that might truly transcend these constraints? Can Positive Sum Design truly claim to be post-political? As designers and stakeholders working together, how might we cultivate opportunities to reframe the way we approach creative problem solving, and orient ourselves towards constructive competition, communication, and cooperation?

So the question becomes, is there an ethical obligation to cultivate creativity? Is there an ethical obligation to frame problems not strictly in terms of the agents involved, but rather in terms of the given conditions? Can we disrupt conventional power dynamics by creatively expanding strategies for meeting users' needs, and by reframing the constraints as to see alternative possibilities. Can we design ways to coordinate our behaviors as an alternative to adversarial, winner takes all, competitions?

Everything manufactured, sold, and consumed was designed by people for people. Our material culture gives structure to our behaviors and ideologies in conspicuous and inconspicuous ways. This is where our analysis of design begins. We can ask how to see the design problem clearly, and to develop strategies for solving those design problems, rather than framing these questions in individual moralistic terms against an antagonist and an assumption of scarcity. We can ask if it is possible to develop political identities without the need of alienating others as Other? By exploring the ways biases and heuristics frame our sense of value, and how we socially construct that value, we might be able to develop design processes that transcend zero sum ideologies.

How we orient ourselves toward the mutability of constraint—the stakes at hand, the ways in which they orient us in scarcity or abundance, and the kinds of strategies used to play the game—also grounds our ethics. Given that the choice to play the game either within or outside of established constraints is ours to make, perhaps the relevant ethical question is also the essential design question: what kind of game should we choose to play?

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