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Contracts of Relation

It takes a broad definition of “representation” to tuck contracts underneath its purview. But contracts, while not a form of architectural representation per se, represent architectural subjectivity. This might sound like a much-too-broad assertion—either so general as to be meaningless or too big a truth to fit into the confines of architecture, engineering, and construction (AEC) contract specificity. But it is precisely architectural contracts’ extension over time and multiple players that makes them an accurate representation of subject types.

Typical American Institute of Architects (AIA) “design-bid-build” contracts initiate an antagonistic set of relations, within which three players—owner, architect, contractor—are offered two separate contracts: owner-architect and owner-contractor. Within this relational framework, architects cannot communicate with builders while developing the working drawings that they themselves will eventually be tasked with implementing, which ultimately brings about error and leads to extra work and profit loss for both. How did a contract between the two parties that most need to support each other in mutual collaboration get precluded? And how did the contracts that do exist come to make architects the nemesis of both the others? Integrated Project Delivery (IPD) is a contemporary design and delivery process that hinges on multiparty, cooperative contracts that share risk and reward between all parties. While its anti-individualistic, communal, and collaborative spirit was developed for the purposes of executing complex projects, it is in theory applicable to all. Is there a culprit, then, to the perpetuation of the unenlightened tradition of competitive contracts?

National AIA has, over the past few decades, become a professional organization which does little more than put a happy face on a profession that is quickly becoming irrelevant as it takes on fewer and fewer financial risks and responsibilities and isolates itself from construction and procurement. National AIA caters to large firms and their conservative agendas, sixty-two percent of which are in red states. The AIA thus has the responsibility of doing two things: getting jobs from the government—which today means supporting policies that negatively affect both the built environment and the architect’s identity as citizens—and give awards to firms and honors to its members—a job funded largely by its major source of income: selling contracts.

En route, the AIA has to keep alive a certain myth of architectural subjectivity, one that looks corporate enough to be “professional” (or in other words, represent the architect as a class that identifies not with blue collar workers, but rather with doctors and lawyers) but also creative enough to ensure that they don’t see themselves as workers whose bad fees and wages need to be questioned. What is at stake in the contract is therefore the capacity to set an identity either with or against our building partners—owners and constructors—and thereby



instill, at ever so small a scale, an ethos of social communitarianism or market-defined competitive individualism.

Contract Theory

If “a contract is a voluntary arrangement between two or more parties that is enforceable by law as a binding legal agreement,” contract law, likewise, concerns the rights and duties that arise from agreements.¹ All contracts work on the assumption that the two or more parties that come together in a contract do so as equals and with an equal understanding of what is at stake. In other words, they operate under what is referred to as a theory of “consent,” and assume that if consent is not freely given, the contract is null and void. This condition forms the basis of Marxist and neo-Marxist critiques of contracts in liberal (capitalist) society, in that parties will inevitably be unequal. As even Robert Reich, Secretary of Labor under Bill Clinton, indicated: “Buyers and sellers have no real alternatives when a large corporation has locked up a market through its intellectual property, control over standards or network platforms and armies of lawyers and lobbyists.”²

Beyond the theory of consent, conventional contracts are

based on the premise of “enforcement” and assume that parties will comply with the obligations because a court of law is available and willing to enforce them. If consent is problematic in a society of unequals, enforcement is problematic for its big-brother ideology. Enforcement assumes that compliance is motivated not primarily by either an ethical duty or a larger good, but rather by the economic disadvantages of breaching a contract. This bad-faith “stick” rather than “carrot” dogma defines the contractual subject by possible guilt rather than hoped-for innocence and positive potential. Enforcement functions best for simple contracts that engage only two parties, are promptly completed, and have specific and limited goals. When one of more of these is not the case—if there are more than two parties, the contract is extended over a long period of time (inviting conditions that are not foreseeable at the time of negotiation and not in either party’s control), and with subjective standards of what constitutes “satisfaction” of the contractual terms—simple contracts are considered to be brittle, i.e., too specific for the unspecific. Litigation steps in where clarity fails.

In the 1960s, a time of social liberalization and economic expansion that challenged legal deal makers, two lawyers developed an alternate theory of contracts that did not have enforcement, and thus brittleness, at its crux. Stewart

Macaulay's critique of traditional contracts was largely functional. He states that the aim of contract law is "to support the market institution" by furnishing tools "to facilitate the operation of a market economy—focusing on the needs of the exchanging goods, services, labor, and capital."³ But because there are many markets whose principles are inconsistent with one another and because their performance cannot be controlled by contracts, traditional legal contracts are inadequate. To support this point, in a sociological survey of sixty-eight businesses, Macaulay found that in practice, business people often follow their own norms not based on contractual obligations and the fear of external enforcement, but rather prefer to work out disputes as they occur and renegotiate agreements in light of changed circumstances. While lawyers regard flexibility with suspicion, threatening as it does the traditional assumptions about why contracts are made in the first place, people in business treat it as an essential ingredient for success. For the same reason, the study found that businesses prefer to have simple, short, and relatively generic contracts, as lengthy and prescriptive agreements not only impede satisfactory resolution to changed circumstances, but are financially wasteful given that detailed provisions may not be used.⁴

The rejection of traditional contracts by Ian Macneil, the other father of relational contract theory, is more conceptual than that of Macaulay and allows for "subjectivity" to be read into contracts. His observations about the failures of traditional contracts—or what he calls "discrete" contracts—is based not on simple market criteria but on the larger social/labor context in which the market and exchange work.⁵ He critiques both the concept of "consent," as it implies imagining an unknown future outcome, and discreteness itself, as fiction.⁶ Missing in discrete contracts is the hidden issue of property and state power, which Macneil insists shapes our notion of subjectivity, for better or worse.⁷

Architectural Contracts

The AIA was formed as an association in 1857 "to unite in fellowship the architects of this continent and to combine their efforts to promote the artistic, esthetic, scientific and practical efficiency of the profession."⁸ But as brought up by one of its members at the first convention held in 1867, it was equally motivated by the need to formalize the obligations of the contractor and define the architect's role during construction:

Now there is a great deal of good that may be brought out by the adoption of a form of contract by this Institute. It is just that kind of thing that everybody will be glad to get hold of who is going to build... I think, sir, that that will be about one of the best thing we have done, if we can prepare a form of contract that will

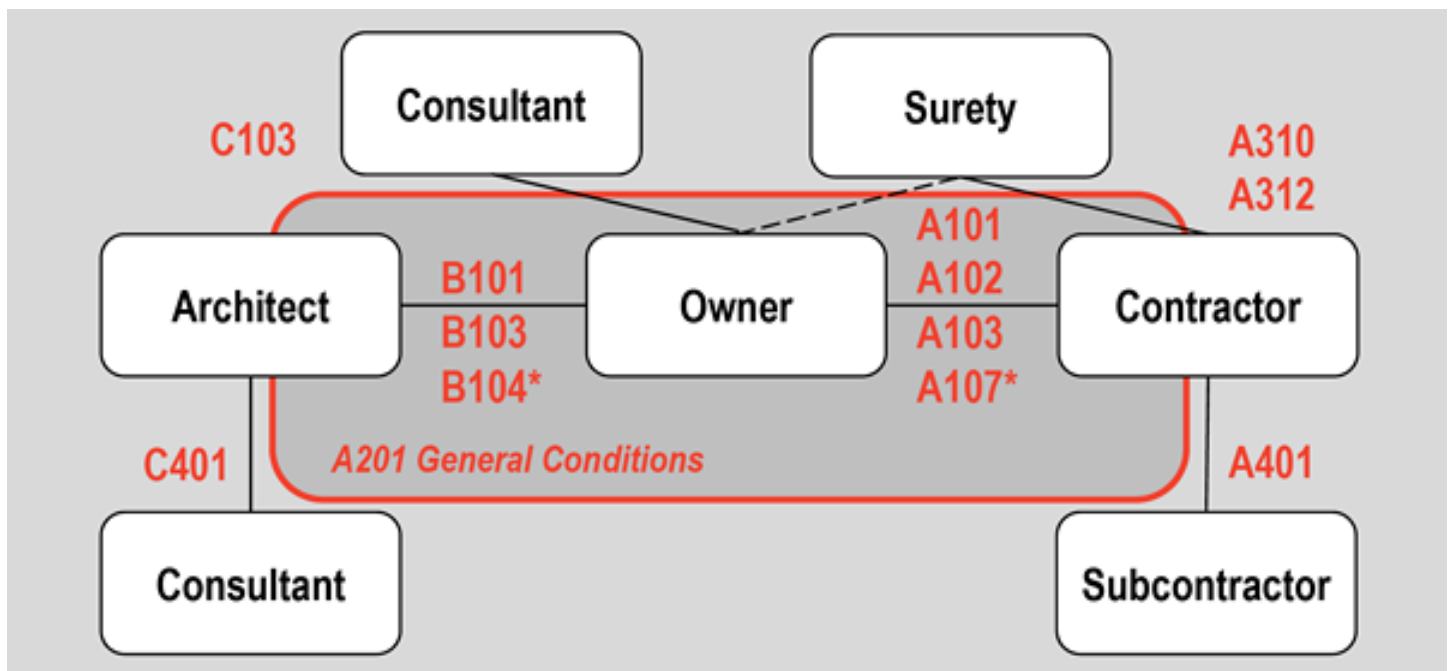
insure strict justice to all, will put an end to jobbing, and will bring out the contractor as he ought to be brought out; so that if he fails in his contract he shall suffer, and if he succeeds, he shall be properly paid.⁹

Before the 1880s, the architect would be responsible for contracting each major trade involved in the construction of a building. But this changed with the emergence of general contractors, and the architect's responsibility for the oversight of work with it. As a result, in 1888 the AIA issued its first contract in order to delineate and enforce the contractor's obligations and architect's oversight. Called the "Uniform Contract," it was curiously not between the architect and contractor, but rather, the contractor and owner. Made of sixteen points, the Uniform Contract obliged the contractor to, among other things, "sufficiently perform and finish, under direction, agreeably to the drawings and specification made by the said Architect," confer with the architect on issues not covered by the drawings and specs, and permit the architect on site for inspection. The Uniform Contract was an immediate success, with the AIA selling 65,000 copies in its first year of publication.

In 1917, the AIA issued its first standard contract between the architect and owner, a relationship less fraught than that between the owner and contractor for reasons of class identity, which had up until then allowed them to operate effectively with gentlemen's agreements or casual, individually initiated agreements. As a member in the 1890 convention said, in response to the suggestion that payments to architects might come earlier and more frequently:

I think it is twenty-five years since I made up an agreement of the kind, and although I have been practicing regularly ever since, I have never had but one signed and I have always got along just as well. I have never collected any fee until the [construction] contracts are signed. I have never known a fee to be paid upon the making of the preliminary sketches and rarely even when the drawings are completed.¹⁰

The need for institutionalization supplied by the architect-owner contract was motivated not by distrust, but rather by the desire for more frequent payments, the standardization of fee schedules that had been circulating casually since 1866, and a growing dissatisfaction with the Uniform Contract in light of the increased complexity of contemporary building. The 1917 contract also served to resolve the open question of the nature and extent of the architect's role as an agent of the owner. As mentioned above, it was still not uncommon at the time for the architect to be responsible for hiring—and thus



Conventional American Institute of Architects (A201) "Design-Bid-Build" contract relationship diagram. Source: American Institute of Architects.

paying—contractors—with the owner's money. The question that the architect-owner contract resolved was whether the architect was the agent of the owner at all times—and thus responsible for the management of contractors—or only when either specifically authorized by the Uniform Contract (such as in the case of errors) or explicitly asked by the owner. The 1917 contract covered the architect's services, fees, reimbursements, and payments, their supervision of construction work, the requirement for the architect to provide an estimate to the owner (in which he should "endeavor to keep the actual cost of the work as low as possible"), and the architect's ownership of documents. Thus the architect's domain of responsibility was circumscribed to the production of documents and the verification of their accurate execution.

Many of the dynamics that have come to shape the relations between architects, owners, and builders were set in place by these two documents. Despite their persistent and evolving dynamic yielding the impetus for both the 1888 and 1917 contracts, the relationship between the architect and builder has never been formalized by the AIA in contract form. While it is not precisely clear why this is the case, potential reasons could include the fact that contracts tend to "follow the money," which has never been in the architects' hands,¹¹ that by being a mere agent-to-the-owner, the lack of direct relationship between architect and contractor ostensibly limits liability,¹² or that given the "discreteness" of the contracts, the ambiguous role of the architect-as-agent-to-the owner logically precludes an independent individual that comes to an agreement with full capacity for "consent." Nevertheless, while the result

of the architect's ambiguous subjectivity and power has yielded neither legal clarity nor good working relationships, it has resulted in the progressive diminishment of its role.

The legal clarity is not for lack of lawyers from both architects and contractors working on AIA contracts. Lawyers from the construction industry were invited to participate in discussions affecting architectural contracts from early on. The Western Association of Architects, who had originally developed the model for the Uniform Contract, had invited builders to participate in a clarification of theirs and the architect's role during construction. In 1900, the newly formed Committee for Specifications and Contracts employed legal counsel from construction for the first time, "beginning a long traditions of Documents Committee members working alongside construction attorneys to draft documents."¹³ At that time, proposals for a bidding system to choose and hire architects were being considered. Even though the proposed bidding process did not make it into the 1917 document, construction lawyers were invited to sit on what eventually became the Contracts Committee. But for all of this table sharing, clarity has not been the outcome. As Howard Ashcraft, an architectural contract lawyer, describes, it is impossible to actually locate responsibility anywhere in the AIA standard contracts.¹⁴

The ill-will between architects, owners, and contractors is structural. The owner logically assumes collusion, given that construction lawyers work with the AIA. As a result, professional liability companies have come to advertise their legal services by arguing not only that they can improve the owner's position in relation to the architect

and contractor, but that the architect-contractor team will actively bamboozle their client without their aid.¹⁵ As Culhane and Meadows, a professional liability company currently puts it on their website: “[The standard form created by the AIA], although certainly not devoid of utility value, have been crafted, published and promoted by a huge, nationally renowned industry group. As such, they are designed to protect the interests of architects and to some degree by extension contractors, in their contractual relationships.” And either despite or because of this perceived collusion and the litigious mindset that comes with enforcement, both the architect and contractor are “guilty” from the start and blame one another for any and all. Between the architect and the owner, traditional class-aligned goodwill has been eroded by the anxiety over fair pay and sufficient oversight of construction. With the abandonment of fee schedules—determined by antitrust laws to be illegal collusion—owners and architects have no basis for determining the value of design, leading to architects feeling underpaid and owners feeling overcharged.

The marginalization of the architect has increased over time in other ways as well. The bidding process for choosing contractors was eventually installed in the standard form of contracts used today, solidifying the lack of control that architects had over choosing who to work with.¹⁶ Professional liability, never before a concern, immediately became one when, in the mid-1950s, the tenant of an apartment was allowed to sue the architect for injuries sustained by a child in a fall from a stoop.¹⁷ The “right to stop work” was soon thereafter transferred from the architect to the owner, which while seemingly wise from a liability standpoint, was another step in the architect’s loss of control. In the 1970s, when office building construction separated building the shell from fitting out the interior, the “need” for an uber-manager to hire and oversee the two interior and exterior contractors yielded the “construction manager,” while at the same time, interior designers began to compete for work on the interiors. In the 1990s, owners became more knowledgeable about construction and procurement, and began taking over former duties of the architect. Increasingly, they are deciding what contract forms will be used on projects and determining the modes of procurement.

Relational Contracts for Architecture

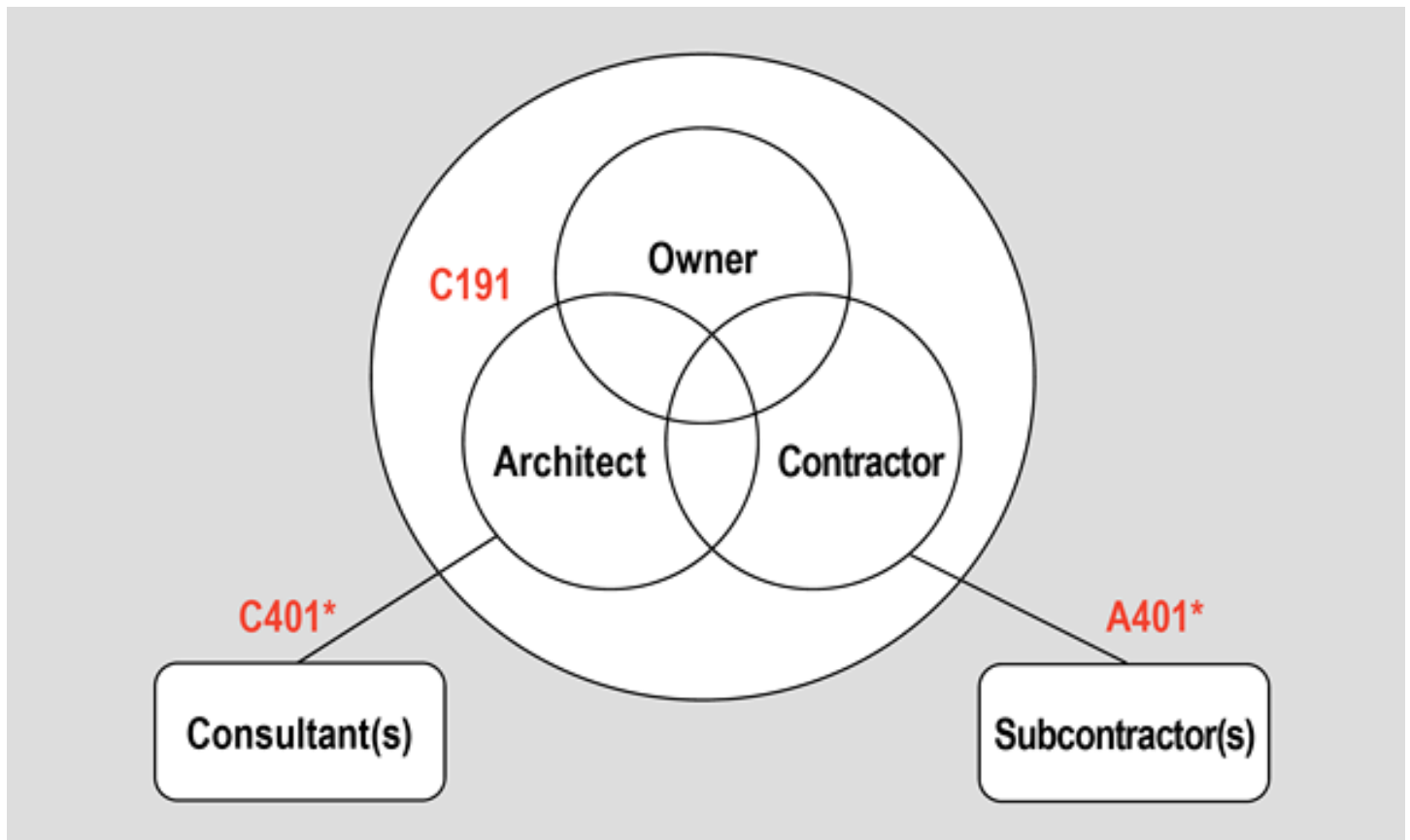
In the late-1960s and early-1970s, AIA California felt the particular disruptions of that love-fueled and protest-filled period. The liberal attitude of relational contracts theory was disseminating.¹⁸ Software developers working on Object Oriented CAD, the precursor to Building Information Modelling (BIM), were advancing technology that allowed businesses to share complex and imageable information while they themselves were committing to

radical, non-proprietary open sourcing.¹⁹ As California legislature imposed rigorous seismic requirements on hospitals to immediately upgrade facilities, the Lean Construction Institute (LCI) saw the potential for this new information technology to radically change construction workflow.²⁰ And a small group of people in the AIA California, working independently of National AIA, shared a common vision that the industry could be better.²¹ As Ashcraft says, “it was the right time (technology, economic stress, and frustration) with the right people unconstrained by a large and political bureaucracy.”²² What resulted was the development of Integrated Project Delivery. In IPD, the owner, architect, and relevant contractors, through a single, multi-party arrangement, adhere to Macneil’s relational principles: (1) role integrity, (2) reciprocity, (3) implementation of planning, (4) effectuation of consent, (5) flexibility, (6) contractual solidarity, (7) the linking norms of restitution, reliance, and expectation interests, (8) the creation and restraint of power, (9) propriety of means (doing things the “right way”), and (10) harmonization with the social matrix.²³ IPD contracts are not discrete, they preclude enforcement (at least external), and “consent” is not fictionalized—it is monetized. Unanimously, the parties decide upon and validate the project’s targets and goals, make realistic decisions affecting costs and scheduling, and share profit.

Besides the agreement to cooperate and avoid litigation, the crucial difference between IPD contracts and traditional, consent/enforcement contracts is that the team jointly determines the project budget, the sum of direct project costs plus the agreed upon profit that will be divided by all parties. Direct costs—time, materials, and equipment—are calculated in advance of any design and called the “target cost.” The determined profit is called the “team profit” or the “risk pool,” and is where expenses that run over the target cost are deducted from. The target cost is therefore not a cap, but rather establishes the line between expense and profit. The owner is obliged to pay all direct costs regardless of what happens, which removes preemptive up-charges related to imagined contingencies.²⁴ The key negotiating issues then become the target cost, the profit level, and its percentage allocation to each of the parties.

For architects, profit is traditionally embedded in each hour billed. This incentivizes inefficiency, as profits grow with more hours worked. In IPD, salaried, not billable hours, are included in the target price. The clear division between actual work (target price) and team profit (risk pool) offers the opportunity for architects to explicitly discuss and promote the monetary value of their design expertise and ambitions.²⁵ In lieu of the owner only vaguely grasping why a firm charges what it does for different levels of staff work, the “value added” by different levels of expertise (above and beyond their salary level) must be explained and defended.

Determined as it is by scope and diverse aspirations, there



Conventional American Institute of Architects "Integrated Project Delivery" (IPD) multi-party agreement contract relationship diagram. Source: American Institute of Architects.

is an extensive validation period at the front-end of contract negotiations, a period in which everyone does not just lay bare their angst, hopes, and true monetary needs, but assesses the mutual trust necessary for moving forward. Numerous projects don't make it past this stage.

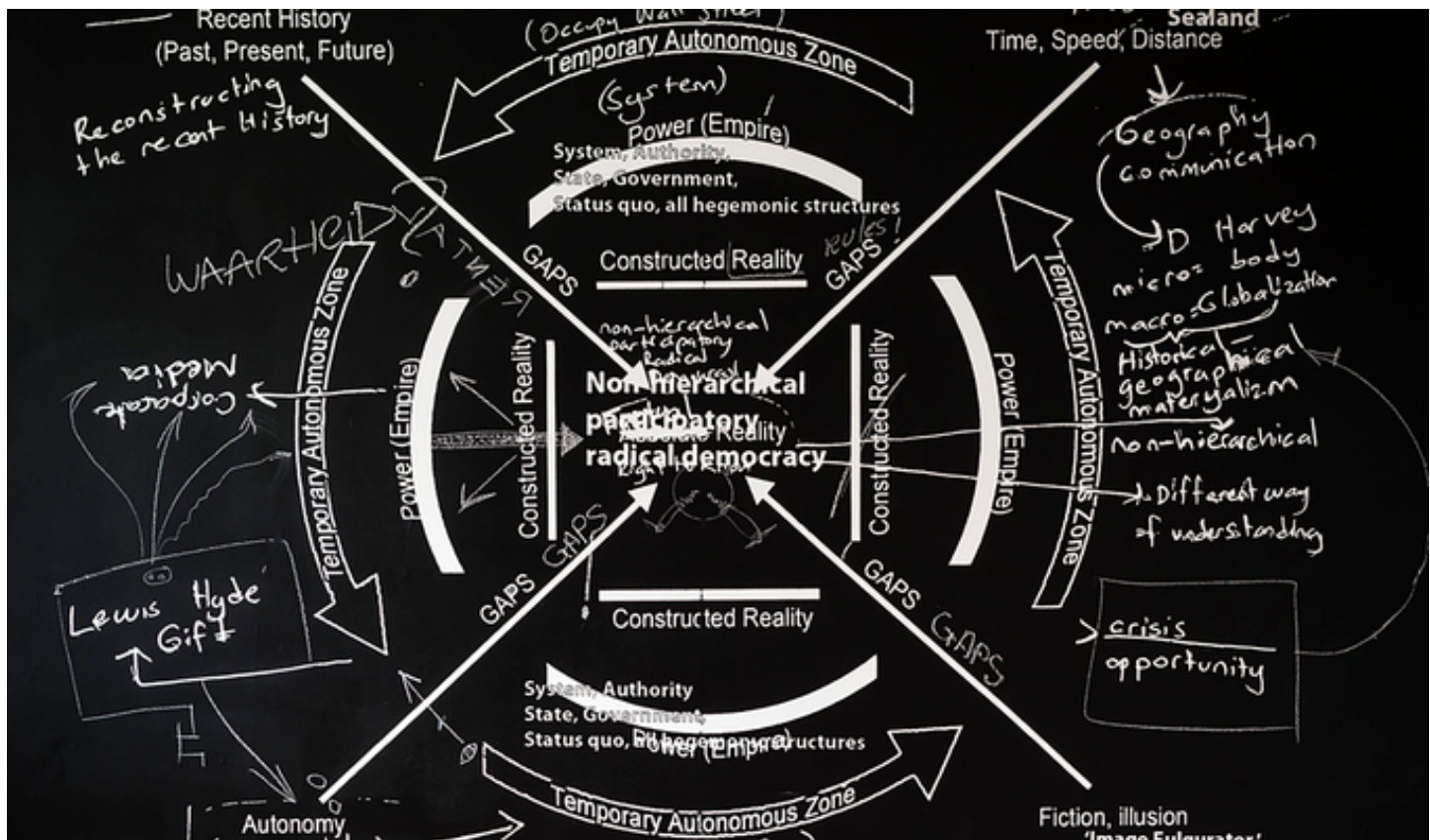
Subjectivity

One may think that contracts don't make relationships, but rather that relationships yield contracts. Yet IPD contracts form relationships before they exist. While they follow market pressure from the construction industry to address increasing programmatic and performative complexity, they do not follow any familiar relationship architects, owners, or contractors have with one another. This unnatural and imposed relationship makes it an interesting example for reconceiving and reprogramming the architect's identity. Is the industry up to the task? No. The AIA has "embraced" IPD and sells the contracts, but have taken no initiative to push it. This could be due to the fact that, aside from initial enthusiasm coming from the Contracts Committee when BIM and IPD were first being developed, the AIA is not a player in the ongoing development of IPD. Given the individuality of each

project, a standardized AIA IPD contract requires so much modification that owners and their lawyers deem it is better to start with a custom contract or one devised by the software companies that determine the way information will be shared.²⁶

Beyond the arguably failed push to contractually reprogram the identity of the architect by the AIA, the architectural subject is hardwired. It loves to love certain identities, from the devoted architect who sees his work as a calling to the corporate firm owner who takes pride in the fact that he's learned how to economize on staff pay in order to underbid a job, the unpaid intern who thinks she's lucky to be working 24/7, or the architecture engineering firm that thinks they are being patriotic when submitting an RFP for the design of the border wall. The AIA is not at fault for creating these various identities, but they are complicit in not acknowledging their limitations. The proposal of those supporting IPD in architecture indicates a behaviorist approach to encouraging a new subject and is the clearest indication of recognizing the fact that reprogramming is the task at hand.²⁷

Outside architecture, the effort to understand the potential for reprogramming the average businessman from the business side are evident when contract lawyers try to



Ahmet Ogüt, Strategic Diagram for Non-hierarchical Participatory Radical Democracy, 2011–2012. Photo: Kristof Vrancken / Z33.

analyze why a capitalist subject would accept changes to a contract that was originally deemed to be in his or her best economic interest. Given an option for securing profits in the short term (the standard approach for owners as well as architects and contractors) versus possible gains in the future (inherent in relational IPD contracts), they wonder, why would anyone not choose certain profit up front? The answers vary, but they suggest self-interest (the future relationships will be more important), the potential for the injured party to retaliate in a future transaction, reputation (breaching the contract could jeopardize one's reputation), or ethics (one feels morally bound to work out a solution even if it seems less advantageous than the original agreement). These are not penetrating psychoanalytic analyses, but one can sense the curiosity about a subject that they thought they knew.

That subject, however, can be reconceived along more fundamental grounds by following the logic of subjectivity underlying Macneil's relational contract theory. Macneil was a communitarian whose antagonist was Thomas Hobbes, whose individualist "man-the-atom" was blamed for many conceptual ills, including laying the foundation for "the so-called science of neoclassical economics." But for Macneil, people are part of a community before they are individuals. Intrinsic to man are not individual rights, as in liberal theory, but rather communal duties and shared goods.²⁸ This communitarian subject is not that of Marx,

either, who Macneil critiques for treating human beings as ends, not means.²⁹ Instead, Macneil suggests "that human beings see others and themselves as both means and ends, not as simply one or the other."³⁰ In the end, we can understand Macneil to have envisioned what Chantal Mouffe and Ernesto Laclau identified as "radical democracy": a society that doesn't demand consensus but rather recognizes that "democracy" needs to be constantly debated by those who are most affected by it.³¹ Macneil writes:

If one believes, as I do, that individuals cannot exist without community and that no community can ever so totally absorb its individual members as to deprive them of their individual nature, then one is also a believer in the constant conflict between individual and communal values and in the impossibility of either ever triumphing over the other in any absolute or permanent sense.³²

I like to think that if we architects, owners, and builders are profound enough, we will recognize that IPD is the hinge between leaving our current reality for a future one. While I do not believe that this will happen, its potential forces a soul-searching that is necessary and perhaps productive.

For in its mix of idealism and market-spawned necessity, for its purported universal applicability and its equalizing of subjects of different social strata, IPD conceptualizes a radical democracy of the architectural commons. It is a marker that architects, owners, and builders are capable of devising plans for a new, concrete and symbolic imaginary.

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Architecture and Representation is a collaboration between Het Nieuwe Instituut, The Berlage, and e-flux Architecture.

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- 1 Ryan Fergus, *Contract Law: (Nutshells)* (Dublin: Thomson Round Hall, 2003).
- 2 Robert Reich, *Saving Capitalism: For the Many and Not the Few* (New York: Alfred A. Knopf, 2015), 54. As a recent example of this, as *The New York Times* reported on October 24, 2017, "Senate Republicans voted on Tuesday [October 24, 2017] to strike down a sweeping new rule that would have allowed millions of Americans to band together in class-action lawsuits against financial institutions." Continuing: "The overturning of the rule, with Vice President Mike Pence breaking a 50-to-50 tie, will further loosen regulation of Wall Street as the Trump administration and Republicans move to roll back Obama-era policies enacted in the wake of the 2008 economic crisis....The rule, five years in the making, would have dealt a serious blow to financial firms, potentially exposing them to a flood of costly lawsuits over questionable business practices." <https://www.nytimes.com/2017/10/24/business/senate-vote-wall-street-regulation.html?emc=eta1&r=0>.
- 3 Quoted in Jay M. Feinman, "Ambition and Humility in Contract Law," *Revisiting the Contract Scholarship of Stewart Macaulay: On Empirical and the Lyrical* (Oxford: Hart Publishing, 2013), 146.
- 4 For an extended discussion of this view point, see Thomas Barton, "Flexibility in Contracting: Introduction", *Lapland Law Review* 2015, Issue 2 (2015), <http://www.ulapland.fi/loader.aspx?id=86913a00-dcd6-4507-a2bf-1d009eab9387>.
- 5 "Exchange is the inevitable product of specialization of labor, however that specialization of labor may occur. Whether in a factory, in a commune, within a corporation, between discrete entities in markets, or within a family, exchange will occur as long as specialization exists." Ian R. Macneil, "Relational Contract: What We Do and Do Not Know," *Wisconsin Law Review*, 1985, 484-52, *Wisconsin Law Review*. (1985): 485, http://www.cisr.ru/files/publ/lib_pravo/Macneil%201985%20Relational%20contract.pdf.
- 6 "Nowhere is the actual production of {Adam Smith's} pins conducted by discrete exchange." *Ibid.*, 486.
- 7 "Even if one believes that rights of property and liberty are conferred on man as a matter of the natural law of a *deus ex machina*, as a practical matter, rights of liberty and property come from society, including its formal manifestation in the State." Ian R. Macneil, "Bureaucracy and Contracts of Adhesion," *Osgoode Hall Law Journal*, vol. 22, number 1 (Spring, 1984): 20, fnnt 33.
- 8 *The American AIA Official Guide to the 2007 AIA Contract Document*, (Hoboken, NJ: Wiley and Sons, 2009), vii.
- 9 *Ibid.*, 13.
- 10 *Ibid.*, 25
- 11 Howard Ashcraft, written in an email November 13, 2017.
- 12 As Phil Bernstein, an architect working in the AIA Contracts Committee in the years of Building Information Modeling, indicates, in more recent years, "the lack of a contract between the architect and contractor was intentional: contractors began suing architects in the 1980s extensively, and one theory architects used successfully was to assert that there was no contract privacy between the architect and the contractor. This prevented, for example, lawsuits asserting that the architect's malfeasance damaged the contractor's business (by delaying one job and preventing the contractor from getting other). Written in an email on November 13, 2017.
- 13 "A History of AIA Contract Documents," <https://www.aiacontracts.org/contract-doc-pages/21531-the-history-of-aia-contract-documents>.
- 14 Told to me in a phone conversation on October 22, 2017.
- 15 <https://www.culhanemeadows.com/five-reasons-a-lawyer-should-review-your-aia-standard-form-construction-contract/>. Ballard Spahr Andrews & Ingersoll, LLP, a national award-winning law firm identifies the top ten issues that require the owner to rework the standard AIA contract: "1. Identify the contract documents and limit owner-provided information; 2. Include a requirement to provide and maintain key personnel; 3. Make clear who is designing all portions of the project and address the issues that flow from contractor designs; 4. Expand the indemnification provision to include protection against liens, governmental fines and/or other losses, including those arising out of the contractor's breach of the contract; 5. Remove the architect as the arbiter of the contract and delete the artificial statute of limitations; 6. Delete the so-called "mutual" waiver of consequential damages by the owner 7; Clarify your payment terms, including change orders and periodic payments; 8. Review and revise the provisions regarding insurance and bonding; 9. Termination for convenience should be just that and not a windfall for the contractor; 10. Recognize the lender and provide for its needs," https://acrel.site-ym.com/resource/collection/674138B4-8B21-4F99-90B3-AA109D31C1FC/Axelroth-S05-The_Ten_Top_Issues_In_Negotiating_AIA_Form_Contracts.doc.
- 16 Standard AIA documents list architectural "Basic Services" as schematic design, design development, construction documents, bid phase services, and construction phase services.
- 17 *Ibid.*, 34-5.
- 18 Howard Ashcraft was reading about the work of Macneil and Macaulay. Told to me in a phone conversation on October 22, 2017.
- 19 In one group's "Agile Manifesto," they declare that value should be placed in "individuals and interactions over processes and tools; working software over comprehensive documentation; customer collaboration over contract negotiation; responding to change over following a plan," <http://agilemanifesto.org/>.
- 20 The LCI is a construction non-profit begun in 1997 that claims to be "a response to customer and supply chain dissatisfaction with the results in the building industry. Construction labor efficiency and productivity has decreased, while all other non-farming labor efficiency has doubled or more since the 1960s. Currently, 70% of projects are over budget and delivered late. The industry still sees about 800 deaths and thousands of injuries per year. *The industry is broken*." Emphasis theirs, <https://www.leanconstruction.org/>.
- 21 Different versions circulate regarding who did what first and when. At the national level, members on the Contracts Committee, including Phil Bernstein, the future vice president of Revit, also had their eye on new software developments and were working on a project called Integrated Project Design.
- 22 Ashcraft, written in an email, November 13, 2017.
- 23 *Ibid.*, Macneil, "Relational Contract," 524, fnnt. 186. IPD has these following five elements: the early involvement of at least the owner, architect, and contractor (and possibly subcontractors who have a significant effect on the project outcome); jointly developed and validated targets; shared risk and reward based on the project outcome; joint project control; and, most significantly, the agreement to avoid litigation.
- 24 Contingencies can be written into the contract, but they go against the spirit of motivating a true assessment of what will be the target cost and what the owner can knowingly put away and on what basis. It goes against the spirit of laying bare all of one's knowledge and putting the rest at risk in profit.
- 25 This is an insight made by Ashcraft that he links to similar issues and potential solutions in lawyers in arguing for their value when hired.
- 26 Ashcraft says that others, including Rene Cheng who has devoted herself to architect/construction collaboration as well as stronger ties between academia and the

profession, believes that starting with the AIA contracts and implementing revisions is a necessary step in educating them about what really is at stake.

27

"Correctly designed, {IPD} stimulates behaviors that increase creativity, improve productivity, reduce waste, and lead to better outcomes..."
Quoted in Martin Fischer, Howard Ashcraft, Dean Reed, and Atul Khanzode, *Integrating Project Delivery*, (Hoboken, NJ: Wiley, 2017), 365.

28

See Ian R. Macneil, "Bureaucracy, Liberalism, and Community – American Style," *Northwestern University Law Review*, vol. 79. 5 and 6 (1985).

29

He quotes the economist Daphne Greenwood: The full quote is: "The term 'species being' (*Gattungswesen*) is used by Marx to refer to a state of reciprocity in which human beings are seen as ends and not as means by each other, in contrast to the hedonistic views of 'homo economicus.'" Ibid., 935, fnnt. 133

30

Ibid.

31

See Ernesto Laclau and Chantal Mouffe. *Hegemony and Socialist Strategy: Towards a Radical Democratic Politics* (London: Verso, 1985). It is "radical" in the sense that, at its root, democracy, if based on freedom and equality, must include difference and dissent. This embrace of difference is what challenges neoliberal and neoconservative dogma.

32

Ibid., 935. Regarding Macneil's personal politics, as the forty-sixth Chief of Clan Macneil of Barra in Scotland, he gifted the crofting estate of Bara to the Scottish nation and his granted a lease of the mediaeval Kisimul Castle to Historic Scotland for 1000 years at the annual rate of one pound and one bottle of whisky, https://en.wikipedia.org/wiki/Ian_Roderick_Macneil.