The experience of living between two places fosters a sensitivity to many environmental changes – in climate, culture, objects, and more. Being bound to a school environment now directs my attention to its underlying structures and customs. These sensitivities are explored as journeys recorded in a notebook. The notes mostly carry observations of humans and their material environment. Many people we meet hold a special relationship with objects and materials, as essential parts of their everyday life. They seem to completely understand the reasons for their attitude and actions. How can we have a similar relationship, well-matched to our cosmological order, with objects and materials that we touch every day? I remember my past as a printmaker and contemplate the relationship with my space and tools. What about our current environments? What is it made of?

The thesis answers by examining the basic elements of words and pictures, with its many faces on paper and printed ink. We turn to the history of these forms, both general and personal, and rediscover their ingrained values. The thesis consists of two parts, a written research and an artistic work. The research tells about the concepts fundamental to the work, especially regarding the concept of seni and the history of print culture, enveloped in personal anecdotes. The artistic work is an edition of handmade books that bear the writing. The techniques and materials involved in the process are documented therein. The artistic production makes it possible for the techniques and materials that have their own journeys to tell the story together, a journey to be undertaken by the reader.

The beginning and end of this journey is not explained, even in the shape of a book. Its shortcomings and vacancies are still to be filled and continued, through other memories and journeys. Numerous variables can be drawn from the materials engaged, such as paper from kapok fibers, to be qualitatively tested in its corresponding disciplines of knowledge.

Keywords  book, journey, materiality, cosmology

My notes that have led us here are fragmented. Upon filling an entire book, I took liberty to look through them. The book held together scattered thoughts. I circled words and ideas that recur. I tried to catch intersecting threads, pulling them, forming two ends. In between them are words which I will recite here. They are signs: of places, of times, of thought. They are frames, or vessels which contain, to be looked inside. Repeating them, the words will gain power.

A shift in my living environment is responsible for this selection. Movement brings change, revealing limits previously obscured by habit. I am formed and grown by places. Through contrast, some words have made themselves remarkable to me. These are some of them.

I have a place of origin and of destination. At this moment, I am at neither. I am both close and remote, in mere distance. I am not home. I have been departing more than arriving. In the journey, I am often met with exactly what I need: A medium to return, but only for a moment.

This book is such a medium. I have given it purpose and steady direction. This is for you,

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The book is born from a place close to me and distant to you, from the patterns of two worlds. It is a form possessing an age. It is my own. My presence is temporary, and one day will depart. Likewise I
make that which is temporary. I have given it cover and embrace, in its beginning and its end.

I am met with ages, old and new. I start from the new, going back to the old. For the old is closer to the beginning. I unwind and grow. The newest is the latest. The late is the dead. The late is not in time. The latest moves with great speeds, covering great distances, distorting time. Repeating, stopping time.

I want to remember you, age.

I want to remember the beginning which is one, becoming many. Thus I make from one, becoming many. For I speak to one, but also too many.

And I give it shape: square and circle, one for the other. I have given it the virtue of smallness: a precious size. Close, closed, enclosed.

The book is the most metric thing. As with clocks, it is incomprehensible in the space of dreams. Having taken form, these words have weight. Their weight is a force affected by gravity, measured with respect to the earth.

With respect to the earth.

I remember you, age.

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In and of itself

The present study concerns an art of the book. It was inspired by wish and nostalgia, to observe the rules of an old technique, working with it hand in hand to determine content. This wish was strengthened by
various physical, material, and institutional experiences that have made themselves distinct
through my lived environments. It started from a
journal of observations and the questioning of
appearances, in manners of forms and colors. It is an
attempt of awareness, of remembering.

The book is divided into two parts: the first a textual
reflection of the incubation within, and the
documentation of its creation outwards as the
second. The two are separated by great distance. It
was first ruminated of under thick blankets, sipping
warm tea. Among friends, feet covered in wet socks.
Then miles away, the tangled ideas were printed on
some cotton paper amidst sneezing and tearing.
Dusting cobwebs and opening rusted locks, the stiff
gears of the letterpress and lithography machines
were lubricated and made to work.

As a space of exhibition the book is contrasted to
the monolithic pedestal and monumental wall.
Though far reaching, it is of thin and fragile
materials. It is to be looked down upon, as one does
to a beggar. Yet the gesture has intimacy, embracing
the words as to come back to life.

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Of the book, there is word and image. Much can be
said of the two; its parallels and contrasts, its
kinship and rivalry, or the humiliation of one in
service of the other.
I remember the volumes we had to read in elementary school. These class textbooks, not some heavy classics, were the ones to have crystallized my opinion of Indonesian literature. I recall an unusual amount of anecdotes in supposedly dry subjects like economics or physics. The authors liked to insert personal myths, grounding abstract concepts in practical metaphors. They had forced poetics in formulas. Later we learned that pronouns were bad in academic setting, but its persistence is all around. I see it as a fervent, maybe unconscious, effort to possess and give personality to that which is usually taken as neutral or objective.

Another memorable trait of the literature are lists and acronyms, found everywhere from ads to obituaries. Their purpose was to create rhythm, becoming mnemonic devices in recitation. In the West, the virtues of spoken word have been attempted in writing since the dialogues of Plato. Elsewhere I have known these virtues in the form of anonymous pantun poetry, old rhyming couplets of wisdom. Though modern lists and acronyms are a bit distant from wisdom, I remember some relevance in political writings resembling manifestos. There was a piece by one professor, written by hand on the wall of our studio, entitled “Nine Points of Reflection for Indonesian Graphic Arts.” One can appoint historical reasons for these tendencies, but my attention is in its esthetics.
The elaboration can be found in another poetic form that I am fond of: oaths. The oath creates the strongest bond between speech and action. It is the word at its heaviest, short but symbolically dense. We used to recite them in flag ceremonies, though I never would have the heroic conviction intended by its makers. My generation resents oaths and manifestos, a trauma from times of destructive confidence. Even so, I am envious of their sureness and slowness, a pace of faith.

Recently I have changed my handwriting to write only in capital letters. It was an attempt to slow down and at the same time be louder. It was an exercise of conviction, slowly reflecting on each letter being drawn. Valuing and judging their urgency. Then I would read them aloud.

Alas, I do not have the gall to start swearing oaths nor have a myriad of personalities within to speak in multiple voices. My notes are only of simple experiences, first and secondhand. In retelling them, I promote their fiction.

So here I find it necessary to apologize, as I have made brash claims. For the fiction of me, as if a stable and unchanging identity is present. The book is a dangerous Narcissus reflection, and I should not like to hold on to it. And with it comes the fiction of
you, the image of you that I keep and the role which is forced upon you in writing.

These words and images tempt me to never leave my thoughts. Any experience is incomplete in words, and documentation is meager. Life is indescribable and here I do not do it justice.

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The Chariot

I have fond memories of buying something delicious from that box. An infinite choice of goods resides in that square frame. Toy peddlers would stop by in front of our kindergartens during lunch break, rolling one of these boxes. Immediately they would
be surrounded by little bodies, curious and jingling with coins in our pockets.

They were chariots of treasure. In the box are smaller boxes which contain again even smaller ones. From afar, they were plastics inside plastics. Squinting, we can finally make out the hidden gold: tiny soldiers, playing cards, firecrackers, temporary tattoos, cigarette candies, neon colored guns. We can already feel the teacher's frown.

I have often wondered upon the genius that the box had wheels. You could go anywhere with it, moving to greater demands. Rather than wait for the customer, you can chase them instead. As I lay on a sofa indoors, sometimes I hear bells ringing from the streets. Who else but wandering food vendors, calling my appetite not by smells, but by their distinctive sounds. The porridge auntie sounds a tiny bell and her fruit salad accomplice rings a heavier kind. The noodle soup grandpa knocks on hollow wood. The sate man shouts out his wares.

A box on wheels is the same principle of cars, trains, and planes. It is everywhere to the point of mundane, but its visual variety still astounds me. I have seen motorcycles heaving with five passengers, a bicycle carrying a mountain of chairs. Unlike a supermarket display, these objects grow as if from a tree, looking all organic. Drawers stacked to the ceiling, filled with assorted packages of stuff. Knick-knacks on rope hang from them, as ripe fruits. Abundance!
Some steps further I come across more of these kiosks and stalls, lining the roadside, parked. Steam and fire come from behind some obsolete window that has failed to contain the aroma. The windows border the inside and out, framing views and protecting them. We carry and move them around, our mental squares. It is a city of squares and circles. In it there are always boxes to be moved, to be fitted in a grid somewhere. How can we ever claim to be productive when all we do is move and remove?

The circles bear our weight, giving traction while the square navigates. The wheel rolls to lower ground, pulling everything to its center. It is the crux of movement. It is present in watches and film projectors. On our letterpress, each print comes from the revolution of flywheel and roller. A rectangular bed carries messages on the matrix through a circular threshold. There the papers are kissed by the matrix, echoing its messages in ink, thin and light.

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**Seni**

The Indonesian word for art is *seni*. The origin is Malay, meaning small or smooth. It is contrary to the big and the rough. A common expression for piss is *air seni*, meaning water that is *seni*. This term is only
recently found, when adaptation to a modern conception of fine art was required. Older concepts regarding the esthetic had come from a multitude of indigenous worlds, well entrenched in its cosmologies.

Jakob Soemardjo in his book, *Estetika Paradoks*, researches a number of indigenous tribes in Indonesia and finds recurring structures manifesting from geographic and environmental influences. These patterns were described by the linguist P.J. Zoetmulder as a kind of dialectical monism. The ideas elaborated below, made accessible to academia through Soemardjo and Zoetmulder among others, are well known to its respective peoples.

For the indigenous, the esthetic is a cosmological goal; peeling the rough into smooth, to small, and finally to nothing. Invoking seni, the Indonesian literati had found a fitting analogue for the fine arts.

The supernatural are colloquially called “smooth” beings. They pass through walls, unbound by the hard resistance of materials. Coincidentally, seni started to be uttered at around the same time as conceptual art.

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Before the conception of seni, the arts were known similar to Presocratic techne. The indigenous Javanese had called it kagunan. The root word guna means ‘use’. Art was mere useful craft. The
practitioner was subject to a twofold hierarchy of knowledge: *kawruh* and *ngelmu*. On the level of *kawruh*, one simply learns the correct forms, memorizing standards and conventions. One who dances on the level of *kawruh* is not yet a dancer. Their dance is neither good nor bad, as these values are not applicable to *kawruh*.

Soemardjo takes several comparisons with Western philosophy to elaborate the concepts by contrast. *Kawruh* works *a posteriori*, having the word collateral to the object. *Ngelmu*, however, is not a theoretical *a priori*. *Ngelmu* is not a detachment from experience, but rather a deep appreciation of it. To the indigenous, higher knowledge is not an objective universal that is independent of the self, but is precisely *about* the self as subject. Distance is not created, but eliminated. This distance that separates artist from artwork.

The Javanese places the work of art subject to a distinct hierarchy of values as well: *wiraga*, *wirama*, and *wirasa*. In fields such as traditional music and dance, these criteria are still used. *Wiraga* has to do with taking a form or body – a *raga*. It is the physical aspect of any art, manifesting from *kawruh* knowledge. *Wirama* means to take on a pattern or rhythm, an *irama*. It is in the structures and relationships built to the work, inseparably linked with intuition. The last, *wirasa*, is the taste. It is esthetic experience of and from the work. In
acquiring wirasa, the subject disappears into the object, the artist becomes the artwork. Only rasa is left.

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The term rasa is used in everyday to refer to the taste of the palate, or to a general feeling. Rasa enak means delicious or feeling good. The sense of taste is one of the most intimate, occurring inside of us. In this context, it indicates tangibility to the object of rasa. Hence the esthetic is inseparable from the sensuous.

We have a technician in our print studio we call pak Tito. One can hear him coming by his ever present hacking cough. Every time I asked when he will retire he would say definitively, “in 2 years”. The next year, he would say the same. And so on. We would ask practical things to him, where things were, how things were. Once I was preparing a mixture of acid, and I asked if it was a good consistency. Without a word, he put a finger in the mixture and tasted it. Smiling, he nodded in satisfaction. He knew its rasa.

Soemardjo points out the old Javanese word for beauty, lango, still has breath in the modern word linglung, meaning confusion. Perceiving beauty incurs confusion in the senses, affecting consciousness. In a state of linglung trance, performers are able to defy hard reality and perform impossible physical feats. In its summit, rasa melts
with raga, the body. This is ngraga sukma, the soul manifest body. The hierarchy reveals itself to be a loop. Chora becomes content. Ladder falls and becomes bridge. The ruler leaves the court and becomes ascetic.

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Our Western reference comes from a part of a large philosophy of technology. Rapid technological advances in the 19th and early 20th centuries had stimulated much of its literature. Science fiction had squeezed from the atmosphere the distinctions of technological utopia and technological dystopia. We take from the pool of the latter those who wrote critically about technology, with tired and repeated echoes into the present.

Many of them work in retrospect, digging into concepts of long past. Lewis Mumford recalls the Greek techne, where once art and technics were inseparable in harmony as craft. For him, the modern human has now added and emphasized the ‘useful’ to the tripartite of truth, good, and beauty. In contrast, the indigenous knows utility inherent in the meaning of kagunan to be indivisible from truth. A well made raga is correct, has a good irama and an esthetic rasa. Accordingly, Martin Heidegger’s criticism of technology as truth without essence is akin to the expression “raga without rasa”.

Not only Mumford looks longingly to Presocratic Greece as an amicable time prior to divorce. Heidegger makes the distinction between a past *poiesis* of craft vs. a modern *gestell* of technology. Jacques Ellul notes that the Greeks had actively practiced self-control to deliberately reject technical development, since it was seen as a brute force contrary to their fine virtues. They were casting off the rough in favor of the smooth, one form of knowledge in favor of another.

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Of knowledge, Plato and Aristotle had distinguished between *techne* and *episteme*. The concepts of *episteme–techne* and *ngelmu–kawruh* are not identical, but we may suggest an aspect of relation: between know–why and know–how. The modern disturbance of this relationship is the central argument for many questioning the consequences of technology. As Marshall McLuhan definitively concludes, technology is an extension which magnifies and creates distance. Barriers of specialization are erected and barriers of materiality torn down. Current technologies of fabrication can create seemingly pure forms in pure worlds, free from material resistance.

We learn of the form–artifact–image hierarchy from Plato’s analogy of the horse: the horse rider who has knowledge of the form, the saddle cobbler having knowledge of the artifact, and the painter who knows
only the image. The cobbler’s *episteme* belongs to the horse rider. The rider’s *episteme* belongs to the army captain. This hierarchy builds up, to the *episteme* of the strategist and finally that of the philosopher–king.

In the application of Javanese cosmology, historical initiates of *ngelmu* occupy the highest caste just like Plato’s philosophers. Ultimately the system conflicts and fails to scale with complexity. Distance grows. The top does not anymore know how, and the bottom does not anymore know why. When this distance is brought closer, the result is natural anarchy. The user and maker becomes one individual.

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**Circles**

The prescriptions of technological critics wanting to return to a past course is considered impossible. Yet what is irreconcilable in time can be reconciled in space. Presocratic *techne* is alive in faraway islands. The distance is there to be undertaken. All roads will take me home. All worlds return me to earth. The body hungers for taste, *raga* for *rasa*.

*Ngelmu* by definition establishes a relationship different from objective reality. It is a deep embrace of subjectivity. What Ellul may observe as self–control in the Greeks, may actually be the self–attachment of experience. The same can explain the
limited use of wheels in some Bronze Age civilizations. Aristotle called the Presocratic philosophers *physikoi* (physicists) as they were most concerned with natural experiences, phenomena. Indeed, in the beginning was the phenomenon.

The book forms a circle out of hierarchies. This circle feeds on the field of art. It is the place to attain the two, *kawruh* and *ngelmu*, as one. It is the place of *rasa*. The circle creates new logic out of the form–artifact–image hierarchy. The image, which the artist knows, becomes *rasa*, the form in image. In the *Kuda Lumping* trance performance, the dancer who mimes a horse comes to know the *rasa* of horse, becoming possessed by the horse spirit.

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**Sights**

My horizon is an archipelagic terrain of mountains and jungles surrounded by waters, natural barriers to exchange, isolating worlds from one another. Those near the coast were the first to establish contact from outside the island world. They are the margins, and their artifacts are motley. Behind them, every landscape is typical. Nothing progresses in the same way.

We find one island populated by hunter–gatherers, a neighboring one by agricultural villages, and another by a fledgling city of the global market. Technology advances in a linear fashion, crashing upon these
nonlinear societies. The artifacts are stranded and scattered, along with the humans involved in its abrupt history. They float in limbo.

We witness here, thriving technicians of obsolete machines, of legacy systems. Congregations of these specialists stay together and form specialized villages and districts. We pass through rows of them that line and typify the roadside.

The village of Bekonang is famous for its alcohol production, notably *ciu*, a beverage from the fermentation of sugarcane and molasses. Its history can be traced back to Dutch colonial times in 18th century. Sugarcane was being cultivated there, due to colonial law forcing every village to have at least one–fifth of agricultural land dedicated to a European cash crop. The story goes that the brewing company Batavia Arrack van Oosten had taught the locals to brew *ciu* for further profit. The knowledge came to last, with now over 120 households in the village becoming specialists.

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The mountainside district Muntilan is a hub of stone carvers. The streets display their works of andesite rock: gravestones, *cobek* mortars and pestles, short and tall statues of humans and animals. They are reluctant to change their inefficient tools, and are only willing to dig the mountain on certain days. Violating these rules means disrespect to the
mountain and its spirits; bad luck will fall to those who do.

The modern city hosts smaller gatherings. I turn left to a street corner of typewriter repairmen. Behind them is a market square for auctioning stolen electronics and automotive parts. A friend lives on the next block, a haven of bootleg CD and software traders. Weeks later, I return to school where we find the few functioning lithographic and letterpresses left in the country, fostered by the institution of art.

Faintly I see the mountains of fire, making fecund not only soil but also people and stories. The island horizon sees the mountain as origin and the sea as destination. Ascetics hide themselves in the peaks, and springs begin between steep rocks. The waters fall to follow gravity, losing purity and gaining depth.

I do not fear the fabled post-history, where there exists neither hope nor memory. For here is abundance of both, victorious. As it ends in one place, so it begins in another.

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Print

The discourse of print has been contributed to by many, theorizing of a print culture claimed to be the strait through which major historical circumstances have occurred. The eulogies of print were sung of how it was responsible for the social organization of
modern nations. It nurtured the spread of a national language, and the centralization that came with it.

Harold Innis pointed to print culture as the exemplar mastery of space biased media. In *Empire and Communications*, he described media as having either a space bias or time bias. Time biased media is used by a priest class to establish verticality and tradition, and space biased media by a ruler class to expand horizontal territory. Clay and stone were time biased, while paper and papyrus were space biased. Innis argued that sufficient grasp of both potentials determined the success of civilizations.

In a more empirical enclave, Marshall McLuhan considered the experiential consequences of print, namely the concept of exact and indefinite repetition. From the act of repetition comes an awareness of infinity and permanence. By a number I multiply the book and my touch. The knowledge of one million implies a reach of that scale, a network of similar complexity, and the possession of printed money to function within it. McLuhan called money the extension of hand and finger. When one has zero, what else is there to give but a hand?

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Print was claimed to be the herald of a tyranny of the visual, or the civilization of the image. It came from the space of print, where words are locked in sequence and composed in square matrices. Lewis
Mumford placed the movable type as the original model of the standardized, replaceable part.

From print we learned the moniker *stereotype* and *cliché*.

Print and writing brought a sense of finalization and completion. Once it is printed, change or edit is difficult. A book is finished. The blank page is filled, a fulfillment of *horror vacui* common to all arts.

Mumford called printing an optimal compromise between art and technics, between the personal nature of the hand and an impersonal technology. In the past, handwritten manuscript was a handicap to the spread of learning in both ends of its production. The reader had to scrutinize through elaborate styles of handwriting, even as the scribes already had to labor painstakingly to moderate their expressivity and establish legibility. Here art was responsible for holding production in check, as the stone carvers of Muntilan who are held in check by their myth.

After the invention of the printing press, a similar condition remained. Before the 19th century, the esthetics of type font in the West still eclipsed its utilitarian purpose. Many publisher–unique fonts were overdesigned and ornamented, becoming hardly readable. Finally after the advent of the steam press, the esthetic aspect had become secondary to a process of standardization, choosing efficiency over expressivity.
Though many extolled the democratic potentials of printing, some lamented the acceleration of the printing industry, which produced sheer quantity. Quality became hidden in the deluge of information. Elizabeth Eisenstein in *Divine Art, Infernal Machine* described how early publishers were accused of sorcery, by the shocking speeds of which they were producing volumes. Yet there were others who saw print as divine intervention, a chance of liberation from certain oppressions. The press was an engine of immortality, churning out thin forms which conquered vast spaces in short time.

Looking closer in print, we find a richness of material nuance, separated from the sweeping consequences as described by Innis and Eisenstein. William Ivins in *Prints and Visual Communications* argued that the varied techniques of print each have what he names as syntax. It is the convention and consequence of process. Each printing method has syntaxes of expression determined by its material matrix: wood, metal, stone, and others.

The consequence of syntax varies in different technologies. In digital computing, the variable of expression is either 1 or 0. Errors will result in a stop, a death. Alternatively, analog technology makes use of a continuously variable physical
quantity, the in–betweens of 1 and 0. In analog technologies, there is not such an easy death. Error becomes a different expression, a different form. In techniques of cooking, different flavors come forth, a different *rasa*. In print and photographs, errors are a blur, a tint, a bleed. Though photography was called by Ivins as without syntax, it was later debated to have the syntax of the chemicals and mechanical participations. As William Crawford in *Keepers of the Light* said, “the syntax is technology.”

The realization of syntax is also technologically determined. Before photography, the syntax of printing (and painting) was mostly hidden by habit, hidden in plain sight. Ivins, a museum curator, noted that only when the techniques had fell out of economic favor, did its artists produce the best works. The expressive potential of media was realized only in hindsight, when it had become obsolete, carcasses discarded by the leviathan.

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Regarding the expressivity of print, further acknowledgements must be made on the technique of lithography, one that I am most fond of. Upon its discovery the technique had freed artists from the syntaxes of previous methods, which heavily felt the resistance of its materials, namely the difficult engraving of wood and metal. Lithography only involved drawing on a smooth stone. It took on the same amount of friction as drawing on paper.
Walter Benjamin recalled the change in medium for producing newspaper illustrations, from lithography to photography. Lithography was the last link between printed matter and the worker’s hand. With photography, the hand was finally freed.

Recalling the notion of media bias, lithography involved marking a time biased medium (stone) to be printed on a space biased medium (paper). Cool stone binds time, and warm paper binds space. Messages etched in steep stone, transmuted to thin paper.

Looking into the steps of the process, we can identify the exact locus of qualitative change. The lithographic stone is at first drawn on by hand, creating subjective marks on the stone. The marks possess an aura. When the marks are transferred from stone to paper by the press, they undergo a critical transformation. The printed mark is objective, and its aura extinguished. It is visually discernible: the objective mark visually mirrors its subjective counterpart. The change occurs with a single revolution of the wheel.

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In wayang shadow puppet theatre, one finds a similar locus. A white fabric screen, the backdrop of the puppet cosmos, functions at the same time to separate two different audiences. The spectators on the side of the dalang puppeteer are the uninvited
spectators, mere passersby who are free to watch. The spectators behind the screen are the honorable guests. The uninvited sees a profane show of finely crafted puppets. The guests see as it was meant to be performed, the spirits themselves, as shadows on a white screen. On one side there is colorful plurality, on the other, a singular black.

Furthermore, the protagonists on the side of good are always placed on the *dalang*'s right side, played with the right hand, the hand of good. On the other side of the screen, the spectators see them on the left, as the side where one begins to read Javanese script.

The threshold separates worlds, between the puppet and its spirit shadow. A similar fabric is used to wrap the dead, between body and grave.

White of paper, remember me to that cotton white, the veil between worlds.

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**Speed**

In *Energy and Equity*, Ivan Illich spoke of a different kind of threshold, separating the under and over-consumer. It is the threshold of effective energy consumption. Speed is used as the measured variable in his arguments. Illich championed the bicycle as the ideal vehicle, the threshold of the gap of speed between worlds. The bicycle, at six times
the speed of on foot, is too slow for the habitual automotive passenger, yet very fast to those who have never known it. It goes at a critical speed, beyond which “no one can save time without forcing another to lose it.”

Like in many things, speed and movement required the circle. The speed of moving pictures incorporated the wheel and electric spark. The spark is accelerating, but electric speeds are not instantaneous. It is still factored by a transmitter, whose components are governed by linear sequences. It is instant to the consumer but not to its technicians who see the hidden workings, the producers who imbue the hardware with their own lifetime. The distribution of time still applies, one gains and one loses. One feels instant, another receives the full temporal blows of its production process.

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The wheel, like paper, is a space biased medium. They centralize and extend territory to distant margins. We find the speed of manual printing like that of a bicycle, a speed dependent on human metabolism. The press runs from an arm rotating a lever, as the leg rotates the bicycle pedal. The consequence of spent energy, sweat and fatigue, becomes the consequence of my words.
Illich elaborated much on the qualification of technology in his treatise of convivial tools. It starts by encountering technology from the beginning of its history as material. To do so means to discover a fullness of expression, of the material imagination within. To express is to squeeze out a juice, a *rasa*. It is a juice with preservatives added. The esthetics makes the object last, as people are compelled to preserve it because it is precious.

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It is not found in a high place. It does not belong to the fast, the large, and the rough. It is *seni*, smooth and fine.

I had once worked in a lithographic printing studio where on weekends a grandmother would come to draw and work on a stone. The stone would be brought to her, and she would proceed to draw something like flowers on it. One day I gathered enough social motivation to have a chat; I asked if she was preparing for an exhibition. She shook her head and said that she was making Christmas cards for her family. At this reply, I was touched into tears. A feeling of humiliation had struck me then, an ambitious young artist with revolutionary dreams. Greater works had filled me with pride, but it is the smallest work, most intimate, that I find sublime.

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Means and relations

I recall the experience of small esthetic moments. I once stopped to fix my eyeglasses with a roadside repairman. He was very meticulous, withdrawing his small tools to remove the screws with an expert hand. Another moment, I was purchasing bamboo still in its grove. The farmer cuts it off the ground, checks it, reassuring me only the best. I see infrastructures and institutions, visibly suckling from the land. Factories stand across houses, next to forests and mines. The mountains and streams, along with the machines that process them, are never far in sight. They are not separated under narratives. They do not hide. Electric cables display and risk themselves overhead. Rotten smells are proud to be present, proving an existence of life.

From the mountain to the sea, here things cannot become obsolete because its histories are always complete, always connected. There are no broken bridges. No component or part is let out of the cycle. Though techniques arrive from elsewhere, here they can take root and grow. People do the same. Technical legacy can become tradition. It enables a village to create the same drink for 300 years, an expertise that has become seni.

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In *The Truth of Art*, Boris Groys said that artistic use of technology is notable, that it was not a technology
of improvement and replacement but of conservation and restoration. The artwork in exhibition makes use of these technologies to preserve the esthetic *rasa.* Like fruits, pickled and pruned in the museum and then sold in the market. Obsolete media are kept alive as artworks relevant enough for the museum to care for it.

Art as an institution is a kind of necromancer. The obsolete flourish in the realm of art, but it is not without consequence. As Marshall McLuhan said, “Past times become pastimes”. This necromancy leaves only a corpse, an image, a pastime. But therein lies the potential for deep embrace, of *nge/mu,* to be able to touch material from its raw form and through all its changes in added value. The distances made by history are minimized. It can involve working backwards, sketching with a modern technology to be transferred to its predecessor; typing words on computers to be printed on letterpress. Strange play in the cemetery garden of art.

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Boris Groys made a distinction between art as a production of messages and as a production of things. It can be understood as ideology or as technology, as superstructure or as material basis. Walter Benjamin had defined it as *lehrwert* and *konsumwert.* Art as material basis have both means and relations of production in its history. The
definition has been faithful to me, using art as simply a method, an excuse to process a material. What is then, the material basis of an institution? How is the *rasa* of words, of a book? The transparency of these *techne* is important in overcoming obsolescence. The Indonesian expression for hopeless is *putus asa*; literally translated as hope cut, it provides an image of a wretched separation from past and future.

Hope and remembrance are created out of a certainty of sense and logic. It is made easier when the variables are few, on small scales. It is the speed of wheels that is gained not by increasing force, but by reducing friction. It is things running smoothly in succession. The author and the producer. The horse rider and the horse dancer. The circle is closed.

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Materials

Before making the book, I had a few days to consider the materials for paper. First I gravitated towards cotton paper, which is stronger than paper from wood pulp. Cotton was cheap and easy to obtain. Later in conversation with a friend, we discovered other alternatives. There is a cotton-like material that I encountered often during childhood. It is called kapok, obtained from the fruit pods of the *Ceiba pentandra* tree. It seemed a promising experiment. We decided to make several kinds of paper for comparison: from cotton fiber, kapok fiber, recycled newspaper pulp, recycled office paper pulp, and mixes of both fibers and pulps.

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Years ago I would pass by old kapok trees on my way to school. The giants were planted along a road next to some train tracks. Their tall, pale buttress roots looked skeletal and menacing. Kids would tell scary stories about the place. Fittingly, the kapok tree has mythological significance in many cultures, including Java and Bali. Its fruit, leaf, root, and bark are ingredients in herbal medicines. The fluffy seed fibers, its namesake, have long been beneficial as well. The kapok fiber is used as filling in beds and dolls, now slowly being replaced by synthetic materials like polyester. I remembered the kapok mattresses of my grandparents were not as comfortable as my own modern spring bed. People
would hang kapok mattresses out in the sun to regain their volume, once a common sight.

Though its use is in decline, kapok can still be found quite easily, wild or cultivated. The majority of kapok here is grown in Central Java. The region which I reside now is West Java, in the city of Bandung. My contact is a family business from a town called Cilacap that brings and deals kapok to West Java. As we talked, they mentioned having a stock of kapok linters, the short seed hairs which is usually unsellable and becomes waste. I told them that it would be perfect for papermaking, as cotton linters are usually used to make cotton paper. The shopkeepers were happy to have an unusual customer and wish me luck. I left the shop with a kilogram of kapok and three kilograms of its linter.

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**Pulp and fiber preparation**

The pulp and fiber materials are first processed by cutting, boiling, and beating, to be later mixed in water. Five kinds are to be prepared: cotton fiber, kapok fiber, kapok linter, newspaper pulp, and office paper pulp. First we dealt with cotton and kapok. We needed the fibers to disperse easily in water, but the natural fibers were long and tightly tangled. We only had our hands to separate the fibers, and it was not so easy without industrial tools. This part was the most laborious. After the separation process, we boiled the fibers in water to further loosen and purify the cellulose. After some time, the cotton fiber and
kapok linter made it to a cloudy consistency in water, but the kapok fiber still tangled.

Left: The long kapok fibers are oily and water repellent.  
Right: The kapok linters are powdery to the touch.  

Left: The cotton fibers separated by hand.  
Right: The cotton fibers, boiled and beaten.

Unsatisfied, we moved on to the kapok linter. The linter had a powdery form which is already almost ideal for the next step. After boiling, we only needed to sieve through a bit to filter out seeds and clumps. Processing the kapok linters took less time than other fibers and the results were more satisfactory.
Next, we attempted to make pulp from recycled paper. We used two sources: old newspapers and used office paper. To make the pulp, the papers are first torn or cut into small strips. The strips are boiled in water for a couple hours and beaten with a wooden stick. Then it is put into a hand blender to further refine the pulp.

Left: Thin strips of used office paper.
Right: The boiled strips are beaten to a pulp.
Left: Using a manual hand blender with rotating lever.
Right: The refined pulp is ready to be used.

Making paper

The paper is made by dispersing pulp in a tub of water, then straining it through a screen. The individual sheets are pressed on a fabric to dry, and then pressed flat. Each sheet uses up a handful of pulp.

Left: A plastic tub is filled with water and pulp.
Right: The pulp is strained with a screen.
Left: The pulp is pressed off the screen with a sponge.
Right: The resulting paper is laid to dry.

Several kinds of paper were made with this method. The 100% cotton paper was very thick and soft. It barely resembled paper at all. This was due to the fibers still clumping together, as we were not able to separate them well enough by hand. Using a kitchen blender only resulted in more tangle. The clumps did not disperse at all in water. It resulted in paper with uneven thickness when strained. The existent advantage was that cotton cannot be ripped easily, and is much more water resistant than pulp.

The 100% kapok paper had the same problems with even worse clumps. We turned hopefully to the paper from 100% kapok linter. It looked promising, but when dried, the paper did not hold together well and was blown away into powder by the wind. We concluded that the linter needed to be mixed with pulp.

Lastly we made paper from several mixes of kapok linter and recycled pulp, which all turned out well.
Paper with higher than 50% kapok was noticeably fuzzier to touch, which will be consequential when printed. A ratio of 1:1 between recycled pulp and kapok linter was then decided to be ideal for printing the book.

The newspaper pulp had a dark grey tinge and resulted in fragile paper which comes apart easily; this is due to the nature of newspaper pulp which has been recycled over many times. It can be made stronger at the cost of making each sheet very thick, which will become a drawback when binding the book. The second option, office paper pulp, feels stronger and retains a clean off-white color despite no attempt of de-inking. It was preferable over newsprint and is decidedly chosen.

Left: The cotton paper blown apart by the wind. Right: The final result of linter and pulp mix.

**Adjustments**

We considered adding filler particles into the pulp mixture. Calcium carbonate from ground limestone or marble is commonly added as paper filler to
improve its strength, smooth its surface, and brighten its color. It was cheaply available and we found it satisfactory.

Another important consideration was to size the paper to tighten and smooth its surface for better printing. On unsized paper, ink from the press is prone to bleed and the paper itself is likely to rip from the pressure. First we tried a starch mixture to size the paper, but it left a powdery residue of flour when dried. Next we used gum arabic and obtained good results. To size paper, starch, gum arabic, and rosin are good alternatives to collagen based gelatins and chemical agents. We had gum arabic powder mixed with warm water and applied to each individual sheet with a spray bottle. Once the sheets are dry, they are pressed and ready to be printed on.

Left: Blending the calcium carbonate into the pulp. Right: Spraying gum arabic to the papers.

The Press

Our letterpress conditions had always been less than optimal. The font cases are disorderly, with many types missing. The first task was to choose a legible
sized font that is relatively organized and complete. With these considerations, we chose the *schmale* Futura 12 font.

Left: The type case with all the letters and symbols. Right: Composing the sentences one letter at a time.

Individual letters of the type are ordered on the composing stick for up to 4 lines at a time, and then laid out on the chase to be composed as a page. The final composition is tied with string and carried over to the press. Locked in place, it is inked and printed.

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Left: The sentences are laid out on the chase. Right: The resulting forme is tied with a string.
The forme is laid and locked on the press. The pressure may rip unsized paper.

The press left deep embosses on the papers and may rip unsized papers. The prints on paper sized with gum arabic turned out crisp and clear.

The pages with images and italics are printed by lithography. Heading over to the lithographic presses, we tested out the papers again. The unsized papers suffered the same fate here as on the letterpress, while the sized papers passed the trials again.

We used acetone to transfer the images from a Xerox copy on to the stone. The image on stone is then etched with gum arabic for an hour. Afterwards the gum layer is opened and ink is rolled on to the stone. The image is then ready to be printed on paper.
Left: The image is transferred to stone.
Right: Proof printing the results.

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**Binding**

A Coptic style binding is used so that the book may be laid open flat. The cover is made of linen rag donated by some friends. It is glued around a piece of board and sown into the binding. In our trial, the thinner papers made from newsprint suffered rips between the stitches. This reinforced our current choice of paper, the mix of kapok linter and office paper pulp.

Left: The rag linen remains from textile endeavors.
Right: The Coptic binding on a sample book.

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It is the day before I have to depart, and I am still busily printing. Friends have come by to lend a hand or word of support. Their companionship is precious to me and I am grateful. I especially want to thank my technical advisors, Geugeut Pangestu and Fajar Nurhadi, for their tireless presence and patience. To my friends who have given me home and heart for the past months: Diliyan Riski, Afina Fauzia, Nyoman Shita, Triana Hapsari, Bagus Agung, Yoga Prabowo, Christopher Dimaz, Yudha Enrico, Sabiq Alfarisy, Happy Mayorita, Slamet 'Nyamuk', Restu Taufik, Rendy Raka. To the strong spirits of the printmaking studio and fine arts facilities of ITB Bandung. And to the dear inspirations of this whole endeavor, Gabriela Gažová, Jakub Bobrowski, Laura Leif, Leroy Purnama. Thank you for the collision of our lives.

And finally, we are nearing finish. The following last pages, the reference list, is in no way complete, for there I have only mentioned textual sources, quoted explicitly or otherwise. There have been many everyday conversations and encounters worthy of inclusion and documentation, but I refrain from doing so. I fear it would extract only one meaning out of an infinitely richer experience.

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