

The Desk Is Where You Write It Down

Why Knowledge Work Has the Wrong Model of Discovery

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Preface

This paper will frustrate readers who came looking for a side to take. It is not arguing for offices or against them. It is arguing that the conditions supporting discovery have been missing from much of the debate about knowledge work — and that once those conditions are named, the argument about buildings becomes a different question.

Knowledge work includes distinguishable operations: discovering something worth pursuing and making it usable, communicable, and durable. Discovery can emerge during focused effort, or after deliberate attention releases — on a walk, during a commute, in the shower, in an enforced pause. Cognitive psychology calls an interval of disengagement *incubation*; an insight that surfaces may be called *illumination*. Neither arrives on command. Capture — testing, recording, refining, and carrying an idea into durable form — often benefits from focused attention. The desk is where you write it down.

Darwin’s Sandwalk, Poincare’s omnibus, Tesla’s Budapest park, and Rowling’s delayed train are documented to different degrees and describe different forms of creative work. Read beside research on brain networks and walking, they invite a question about the working conditions institutions recognize: what happens when the visible production of knowledge is mistaken for the whole process of producing it? That question, rather than a choice of office or home, is the subject of this paper. The answer will not be a recommendation that everyone walk, commute by train, or work remotely. It will be an account of why a single visible measure cannot describe all the activities needed to produce an idea, and what changes when an organization starts designing with that limitation in mind.

Abstract

This paper develops an operational distinction between discovery and capture in knowledge work. Discovery includes the formation of new connections, reframes, and insights; capture makes such material durable through documentation, testing, refinement, and communication. The activities are distinguishable but not mutually exclusive. The incubation and illumination concepts formalized by Graham Wallas (1926) provide an established vocabulary for one recurring path to insight: sustained engagement followed by release from deliberate search.

Accounts of scientific, mathematical, and artistic work repeatedly describe insights emerging during walks, travel, pauses, and other periods outside concentrated effort. Charles Darwin’s Sandwalk, Henri Poincaré’s omnibus recollection, Nikola Tesla’s Budapest park account, and J.K. Rowling’s train journey illustrate this recurring pattern; they do not establish a universal sequence or prove that discovery is confined to non-desk settings. The larger historical survey and its documentation categories appear in Appendix A.

Contemporary creativity research identifies interactions between the Default Mode Network (DMN) and executive-control systems in creative idea generation. A 2025 multi-center study analyzed 2,433 participants across ten independent samples from five countries and found that dynamic switching between these networks predicted divergent-thinking ability (Chen et al., 2025). A 2026 review of 23 walking studies involving 1,036 participants found a large pooled effect on divergent thinking and uncertain evidence for convergent thinking (Thabane et al., 2026). These studies examine related but distinct processes; they do not establish that an entire discovery/capture cycle corresponds to two exclusive neural states.

The practical implication reframes the debate about where knowledge work should happen. Return-to-office and remote-work advocates often describe different environments, yet both may be responding to a common demand for conditions suited to the work at hand. The evidence about attendance and retention does not directly test incubation as the cause. It does make the choice of working conditions a question worth investigating. The question was never only which building. It was which conditions.

This paper builds on established research concerning organizational creativity and physical settings (Amabile et al., 1996; Malinin, 2016). Its distinctive concern is what follows when institutions give more weight to the visible products and signals of work than to the less observable processes contributing to them. It considers historical practice, neuroscience, walking experiments, commuting, and office design, then illustrates the proposed framework through an ordinary working day. Its institutional account is a synthesis, not a claim that any single experiment settles workplace policy.

Keywords: knowledge work, discovery, capture, incubation, illumination, Default Mode Network, attentional switching, walking, creativity, return-to-office, cognitive load, commute predictability, institutional design, third place

1. The Setup

Most people who do creative or analytical work for a living have absorbed the same unspoken rule without ever being told it directly: if you are sitting at your desk, you are working. If you are not sitting at your desk, you are not.

It is inherited, almost unchanged, from a much older model of labor — one built for work where presence and output really were the same thing. A machine operator who has stepped away from the machine is, in that moment, not operating it. There is no ambiguity. Time at the station and time producing are identical.

Knowledge work borrowed this proxy without ever re-examining whether it still applies. Desk time has become a stand-in for thinking — even though presence at a desk reveals little about which kind of thinking is taking place. This paper is about that gap, and what it costs. The gap has a shape: the visible part of knowledge work is easier to count than the processes from which its best outputs sometimes emerge.

2. Everyone's Had This

Almost everyone has had this happen. You're stuck on something — a sentence that won't resolve, a bug you can't find, a decision you keep circling without landing on — and you give up for the day. You close the laptop, take a shower, or go for a walk because the dog needs one. Somewhere in that in-between time, with no warning, the answer arrives. Sometimes it happens at the desk. But sometimes it comes in the strange, unguarded stretch between trying and not trying.

Back at the desk the next day, the lesson rarely sticks. A calendar full of meetings, a familiar status indicator, or a workplace culture that rewards visible presence can make the shower insight seem like luck rather than part of the work. The problem is not that the indicator or the calendar was designed to measure creativity. It is that what people can see may begin to stand in for what people value. The historical record offers a longer view of this discrepancy: some of the people whose work we now take most seriously deliberately made room for the parts of thinking that could not be recorded as desk time. They did not stop preparing, calculating, drafting, or checking their results. They built room for other activities alongside those familiar forms of work. That is why the examples matter: they are not argu

ments against effort but accounts of what sustained effort sometimes required around it.

3. The Historical Record

A naturalist, an engineer, a mathematician, and a novelist — separated by a century and a half, with nothing professionally in common — did not all do the same thing to get there. Some walked. Some never moved at all. What they share is how they structured the relationship between focused work and stepping away — between concentrated preparation, moments of disengagement, and the work of making an insight durable. Placed beside modern research, the accounts help expose an institutional question that biographies alone do not answer: which parts of the knowledge-production process are allowed to count as work? That is what this section does.

Charles Darwin made walking a standing part of his working life. At Down House, where he spent the last four decades of his life, he laid a quarter-mile gravel path through a strip of woodland and followed it regularly for decades. His swinging gait and the strike of his iron-shod walking stick became familiar sounds to his children (F. Darwin, c.1884/Darwin Online). In earlier years he counted circuits using a heap of flints, kicking one aside each time he passed. Francis Darwin also recorded the part of the story that is often lost: later, his father stopped keeping to a fixed number of turns and walked as far as his strength allowed (F. Darwin, c.1884/Darwin Online; Darwin Correspondence Project, n.d.). The Sandwalk remained part of his working routine, a place for thinking outside the study where he wrote and conducted much of his research. The flints counted laps. They did not measure the difficulty of a problem. What matters here is not a secret numerical formula for insight, but the place Darwin made for thought beyond his desk.

Einstein offers a later parallel. Princeton historians describe walking as a habit he enjoyed throughout his life. In Princeton he regularly walked to the Institute for Advanced Study with Kurt Gödel, and the Institute records his remark that he came to the office for the “privilege of walking home with Kurt Gödel” (Princeton University, 2022; Institute for Advanced Study, n.d.). A later secondary account identifies Darwin as a role model for Einstein’s walks (Kacevac, 2024), but it does not supply the original testimony behind the claim. Direct influence therefore remains possible, not established. Darwin’s solitary Sandwalk and Einstein’s walks with an intellectual companion are both documented practices; whether one led to the other is a separate historical question.

Nikola Tesla’s walking story began with a breakthrough he did not schedule. After finishing his studies, he suffered what he described in his autobiography as a complete nervous breakdown — a period so severe that, in his recollection, he could hear a watch ticking through three closed rooms and the passing of a distant car

riage shook his body (Tesla, 1919). Recovering in Budapest, he was walking through a park with a friend, reciting Goethe's *Faust* as the sun went down. He stopped mid-line. As he later recalled, the idea arrived like a flash of lightning: the rotating magnetic field principle underlying his alternating-current motor. He sketched the design in the dirt with a stick (Tesla, 1919). Decades later, when interviewed for *Physical Culture*, Tesla called walking the most stimulating activity, in his view, and said he walked no less than ten miles a day (Corners, 1935). The 1935 testimony supports his valuation of walking; it does not establish that the Budapest insight caused him to adopt a lifelong habit. The two accounts are sufficient without that inference: Tesla remembered a consequential insight while walking and later explicitly described walking as mentally valuable.

Henri Poincare, the French mathematician, did more than report an unexpected insight: he described the work that came before it and tried to explain why stepping away might matter. For fifteen days he had deliberately pursued a problem concerning the functions he later called Fuchsian functions, sitting at his desk, testing combinations, and getting nowhere. After coffee one evening left him unable to sleep, combinations of ideas seemed to assemble themselves; by morning he had a result. Deliberate work followed, including an attempt to represent the functions through other series. Then came a geological excursion. While boarding an omnibus at Coutances, he suddenly recognized a relationship between the transformations he had been studying and non-Euclidean geometry. He recalled feeling certain but did not check the result during the journey. He verified it later, on returning to Caen (Poincare, 1908/1913).

In a separate article for *Le Matin* in December 1908, Poincare returned to this pattern in plain language. He described trying and failing at his desk, leaving a problem alone, and finding an unexpected connection on a walk or journey. The intervening apparent rest did not make the previous effort disposable; he explicitly argued that conscious work supplied the material from which later associations could form (Poincare, 1908, *Le Matin*). That was his account of an unconscious process, not a neural measurement of one. But it is valuable testimony precisely because it refuses the easy opposition between effort and disengagement. He needed to work on the problem before he could step away from it. The omnibus did not replace the desk. It exposed a connection his deliberate work had prepared him to recognize.

J.K. Rowling's case removes walking from the equation, and makes the difference between developing an idea and writing it down unusually tangible. In 1990 she was returning to London from Manchester when the idea of a boy who did not know he was a wizard came to her on a delayed train. She had no functioning pen and was too shy to ask a fellow passenger to borrow one. For four hours, she recalled, she sat and developed the idea in her head, letting its details gather. She

later wondered whether slowing down to record each thought might have interrupted the flow; she also wondered how much she forgot before she could write. She began *Philosopher's Stone* that evening (Rowling, n.d., archived official biography). This was not four hours of measured unconscious incubation. It was four hours of imaginative development without the option of immediate documentation.

The distinction becomes clearer in a second travel story. Rowling later said that she came up with the Hogwarts houses while writing on an airplane sick bag (Rowling, 2017, as reported by Bonomolo, 2017). On the train, the ideas developed without a pen; on the plane, the available surface became the place where she could write. One anecdote concerns delayed documentation, the other improvised capture. Neither requires a desk, and neither establishes that postponing capture always makes an idea better. Together, they show how creative work can change form within the same ordinary setting: first an idea taking shape, then something durable enough to carry home.

The accounts differ in exactly the ways the argument needs. Darwin made walking a practice; Tesla recalled a breakthrough on a walk and later described walking as mentally stimulating; Poincaré explained what concentrated preparation made possible when he stepped away; Rowling remembered an idea developing when she could not write. Their experiences do not establish a universal cognitive sequence. They establish that sustained attention and the moments beyond it both belong in the historical account of intellectual work.

The wider record is suggestive, and less uniform. James Watt later recalled that the separate-condenser principle occurred to him while walking through Glasgow Green in 1765. The detailed route comes from a recollection transmitted to the Hart brothers decades afterward and published in 1859, not a contemporaneous record of the walk (Watt, as transmitted by Hart, 1859; Rosen, 2010). During Cambridge's plague closures, Newton continued mathematical and experimental work at Woolsthorpe; the later-recounted apple story marks a question about gravity, not the delivery of a completed theory (Newton Project, n.d.; Stukeley, 1752). Nietzsche made walking an explicit philosophical commitment; his claim that thoughts reached by walking had value is a philosophical judgment, not an experimental result (Nietzsche, 1889).

Mary Shelley supplies another form of the distinction. In her 1831 introduction to *Frankenstein*, she recalled a vivid waking reverie that gave her the image at the center of the novel. After earlier reading, conversation, and an unsuccessful attempt to invent a ghost story, she recognized that the scene itself could become the story; she said she began writing the following day (Shelley, 1831). This is a retrospective first-person account of an experience in 1816, not independent proof of an incubation mechanism. Its value is the difference Shelley herself described between imagining the scene and putting it into words.

Beethoven, Dickens, and Kierkegaard also appear in accounts of walking and intellectual or artistic life (Beethoven-Haus Bonn, n.d.; Noden, 1988; Kierkegaard, 1847). The late account of Kekulé’s dozing and dream imagery remains disputed (Kekulé, 1890; Rocke, 2010). Appendix A retains the seventeen-person historical survey with explicit provenance distinctions. Neither the recurrence of walking nor the persistence of famous stories makes each case equally reliable. Archimedes’ bath survives through a much later ancient account (Vitruvius, *De Architectura*, Book IX). Mendeleev’s periodic-table dream, excluded from the selected cases, remains a contested anecdote rather than an additional verified observation. The survey matters because it allows an account of intellectual work to include preparation, wandering, sudden recognition, and eventual writing without pretending that all historical witnesses described the same event.

4. The Neuroscience

Stopping the active search for an answer doesn’t turn the brain off. Attention changes, and the activity of networks associated with internally directed thought can change with it. That makes periods of stepping away relevant to the paper’s argument. It does not mean that a switch from a desk to a walk is itself a complete neurological account of incubation.

Neuroscientists use the term *Default Mode Network* (DMN) for a distributed set of regions associated with internally directed processes, including mind-wandering and aspects of autobiographical thought. Christoff and colleagues sampled people’s mental states during a task using functional MRI and found contributions from default-mode and executive systems during mind-wandering (Christoff et al., 2009). What looks like a lapse in deliberate attention is not necessarily cognitive inactivity. But DMN activity is not a one-to-one measure of incubation, and neither a historical walk nor a stalled train tells us which network was active at a particular moment.

The more precise creativity finding concerns cooperation rather than segregation. Spontaneous association and deliberate control both contribute to creative idea generation, with interactions between the DMN and executive-control network (ECN) among the neural signatures researchers study. Beaty and colleagues connected default–executive coupling to creative idea production (Beaty et al., 2015).

EVIDENCE

Chen and colleagues then analyzed resting-state imaging and divergent-thinking performance across ten independent samples from Austria, Canada, China, Japan, and the United States ($N = 2,433$). More frequent DMN–ECN switching predicted divergent-thinking ability in their analysis, while the relationship with network balance followed an inverted-U pattern (Chen et al., 2025).

Direct neural recordings and stimulation in thirteen patients supplied further evidence that the DMN contributes to creative thinking (Bartoli et al., 2024). None of these results assigns the DMN exclusively to discovery or the ECN exclusively to capture.

The inverted-U finding is especially useful because it resists a simple ‘more mind-wandering is always better’ story. Chen and colleagues found a relationship between divergent-thinking performance and the balance of network switching, not a universal schedule for how long anyone should incubate. The paper’s broader interpretation is that creative work can draw on associative and controlled processes whose contributions vary across a task. An institution that rewards uninterrupted visible attention may overlook some of that work. The brain-imaging studies do not themselves establish the institutional consequence; they clarify why an exclusively presence-based model is an incomplete starting point.

The relevant experiments measure creative idea generation and network dynamics, not the entire process of preparing, discovering, testing, documenting, and applying an insight. The next section asks a related question at the level of observed behavior: does changing one’s physical activity affect different thinking tasks differently?

5. What the Data Shows

Section 4 described interactions associated with creative thinking. Behavioral experiments provide a second line of evidence, asking how performance changes when the conditions of a task change. They do not measure the same outcome as brain imaging, but the two literatures can be read alongside each other.

Walking is a particularly tractable intervention because it changes the conditions under which people perform a task. Researchers can compare what people generate while walking with what they generate while sitting, rather than relying solely on recollections of when an idea arrived.

In 2014, Marily Oppezzo and Daniel Schwartz asked participants to complete two kinds of thinking tasks while seated and while walking on a treadmill. The first asked for novel uses for everyday objects — a divergent-thinking exercise with many acceptable answers. The second asked for a single word that connected three seemingly unrelated words — a convergent-thinking problem with a correct answer. In their first experiment, **81% of participants improved** on the divergent-thinking task while walking, compared with **23% of participants** who improved on the convergent task (Oppezzo & Schwartz, 2014). These are proportions of people whose scores improved, not an 81% or 23% increase in average performance. Nor are the tasks exact measures of incubation and capture: people can generate ideas deliberately, and convergent reasoning can itself be part of discovery. What the experiment established was narrower and useful for precisely that

reason. Changing physical conditions can change which kinds of thinking become easier.

A 2024 study added a further nuance: free, self-directed walking produced greater creative fluency than walking constrained to a rectangular path (Bartholomae, 2024). It is not only the physical act of walking but the unobstructed, self-directed quality of the movement that matters.

One study, however well-designed, is one data point. A 2026 systematic review pooled 23 separate studies and 1,036 participants and found a similarly task-dependent pattern: a large effect of walking on divergent, open-ended thinking ($d = 0.93$) and an uncertain estimate for convergent, single-answer thinking ($d = 0.16$; 95% CI -0.31 to 0.63) (Thabane et al., 2026). The pooled divergent-thinking estimate was large, though the studies were heterogeneous. Walking outdoors produced a numerically larger effect ($d = 1.19$) than indoors ($d = 0.92$), though the difference wasn't statistically reliable.

The review's authors flagged a real limitation: much of the strongest evidence still traces back to one research group, and the authors called for independent replication before the finding should be considered fully settled (Thabane et al., 2026). The evidence supports a meaningful benefit for divergent-thinking tasks while leaving the convergent-thinking result uncertain. That is the honest state of the evidence.

Walking is the paper's clearest behavioral example of how conditions can influence idea generation. It is not a direct test of the incubation mechanism. Darwin walked; Poincare recalled a breakthrough at an omnibus stop; Rowling's idea began on a train; Kekule later described a doze by a fireplace. The activities varied, and the historical reports are not controlled experiments. Read beside the walking studies, however, they make a plausible question harder to ignore: why assume that the same conditions suit every cognitive task?

6. The Real Model

Darwin gave thinking outside the study a recurring place in his day. Poincare described the deliberate work that preceded an unexpected insight. Rowling developed an idea on a train when she had nothing with which to record it. The experiences differ, but they bring two functions into view.

DEFINITION

Discovery names the formation or recognition of a new possibility. *Capture* names the work that tests, records, refines, and communicates it so that someone can use it.

These are functions, not addresses. Insights occur at desks; people write proofs on scraps of paper while traveling. The distinction is between producing a connection and making it dependable and durable, not between working and taking a break. The functions may happen in the same hour. Someone drafting an argument can uncover its central idea while trying to explain an earlier one, then test that idea in the next sentence. A programmer can find a bug by tracing the code line by line or by recognizing, halfway through an unrelated walk, what assumption the program was making. These are not rival versions of work. What matters is which operation is being performed and what conditions make it easier to complete.

Wallas (1926) supplied an established vocabulary for a common route through creative thought: preparation, incubation, illumination, and verification. Preparation brings a problem into focus; incubation reduces direct effort while processing may continue; illumination is the recognition of a new connection; verification examines it. The stages can overlap, repeat, or unfold out of order. Experimental research suggests that disengagement can help some creative tasks, particularly when the intervening activity makes modest demands on attention (Ritter & Dijksterhuis, 2014). The historical accounts illustrate possibilities within that tradition; they cannot certify a neurological sequence. Appendix B retains the fuller framework definitions. The sequence is a way to describe a recurring pattern, not a rule that every discovery must pass through four labeled gates. It also does not make convergent reasoning synonymous with capture: selecting the correct relationship between clues can itself produce a new idea. By the same token, a spontaneous association becomes useful only if someone can determine whether it survives scrutiny. The two operational terms are meant to make those functions easier to discuss, not to replace the richer account of reasoning with a slogan.

The desk remains valuable. It supports concentrated preparation and much of the work of proof, revision, and documentation. Yet the very things that make these activities useful to organizations also make them easy to observe: scheduled meetings, completed documents, visible availability. A connection forming during an unscheduled pause does not present an equally convenient signal. Nor should a manager be expected to verify the private cognitive content of every interval away from a screen. The practical issue is less about detecting an unseen insight than about deciding which conditions employees are allowed to use without their absence being automatically interpreted as a failure to work. Protecting opportunities to change one's attention cannot guarantee illumination, but treating only visible activity as productive risks excluding conditions that some tasks require. A workplace can organize itself around measurable deliverables while still recognizing that the route to those deliverables will not always be continuously visible.

Nor is the relation between creativity and working conditions a new discovery. Amabile and colleagues (1996) developed measures of organizational environments

and found that reported conditions distinguished high- from low-creativity projects. Malinin (2016) drew on accounts of creative practitioners, including Tesla and Poincare, to examine how physical settings interact with different creative modes. This paper does not claim to originate those connections. Its synthesis begins with another institutional question: what happens when the organization providing working conditions also decides which signals will count as work? Visible availability and completed documents serve real purposes, but neither describes the entire process that produces a new contribution.

That question does not imply workers should make every decision unilaterally. The individual knows the immediate demands of a problem; a manager sees deadlines, dependencies, and coordination needs the individual may not. Both forms of knowledge matter. A shared review may benefit from in-person collaboration while another task benefits from uninterrupted attention or an unscheduled walk. A fixed rule can serve the first need and obstruct the second when it treats every task alike. Consider a design review that depends on several people inspecting the same prototype. It may make sense to choose one room and one time. But the judgment that co-presence is valuable for that meeting does not determine where someone should spend the following afternoon solving a problem alone. Those decisions require different information. Treating them as identical is a loss of precision, not a gain in coordination.

COUNTERPOINT

The cited workplace research measures outcomes such as attendance, satisfaction, and retention, not whether incubation produced an insight. Improved matching between tasks and working conditions is therefore an institutional hypothesis, not an experimentally established creativity gain.

KEY IDEA

The practical question nevertheless changes: **which conditions does the work require, and who can recognize when those conditions should change?**

The answer cannot be given entirely from a corporate policy or entirely from an individual preference. It has to be negotiated in the work itself, with clear shared requirements where coordination matters and discretion where the institution lacks a reason to prescribe the method.

7. The Office Worth Showing Up To

Consider what the framework looks like from the inside of a single working day.

Take one employee and two ordinary Tuesdays. The details are fictional; the conditions they illustrate are recognizable. In neither version is she thinking about incubation or neural networks. She is getting her daughter to school, finding something to eat, trying to move a difficult problem forward, and getting home on time. The differences begin before she reaches her desk.

She waits with her daughter at the school-bus stop near their home at 8:15. Once the bus has gone, the station is a four-minute walk away. Her company's headquarters, roughly nine miles from home, was chosen partly because it sits near the rail line. The train ride takes about twenty-eight minutes, and with the walks at either end her journey is usually around thirty-five to forty. Sometimes a train is late. Most mornings, though, the journey is reliable enough that she no longer checks the transit app every few minutes.

She spends part of the ride looking out the window, letting a problem from yesterday come back without deliberately pursuing it. Occasionally she notices a connection she missed at her desk. Other mornings nothing resolves; she simply arrives without having navigated traffic for the past half hour. The ride gives her an interval that hasn't already been assigned to somebody else's demands. It can support the less directed thinking the paper has been describing, without producing an insight on command.

The cafeteria runs at cost. Not free — a good meal, something to drink, a few healthy options alongside everything else, usually for around ten dollars. She doesn't need to decide where to go, what she can afford nearby, or whether lunch will take most of her break. Some days she sits with colleagues. Other days she eats quietly and goes back to work. The advantage is so ordinary that she barely notices it: lunch has stopped being a small problem she must solve anew each day.

She could work from home on most days. Sometimes she does. But at home she can see the laundry, the dishes, the errands that have been waiting since the weekend. None of them is urgent; all of them asks for a little attention. On many weekdays the office offers a useful separation, a place where she can work without also looking at everything else that needs doing. Some weeks she's there four days and some weeks two, depending on the work and what the rest of her life requires.

By mid-morning she has been pushing at the same problem for a while. The company has benches along a short path outside the building. People actually use them. Some walk with a colleague, some sit alone, some take a notebook, some bring nothing. She steps outside without turning it into an announcement or calculating the length of an approved break. She may come back with an idea. She may simply come back ready to try again. What matters is that changing the condi

tions of her attention is an ordinary part of the working day, not an absence that must be explained.

In the afternoon she takes the train back along the same route. She can usually judge when she'll be at the neighborhood stop to meet her daughter's returning school bus. Delays still happen, but she rarely spends the whole afternoon wondering whether a freeway will turn a manageable journey into an hour. The same predictability that gave her a quiet interval in the morning helps her arrange the rest of the day.

When her daughter is sick, she works from home. She tells the colleagues who need to know what will change, and they make whatever adjustments the day's work requires. She isn't exempt from coordination. She simply doesn't have to ask whether she is allowed to exercise the judgment the arrangement already gives her.

Now put the same person at another company. She lives in the same neighborhood, takes her daughter to the same school-bus stop, and does much the same work. The second headquarters is also about nine miles away, but reaching it by transit is awkward, so she drives.

On a good day the drive takes thirty-five minutes. That's manageable. But traffic takes her attention, and a closure or a Friday slowdown can stretch the journey well past an hour. Sometimes she thinks about work in the car. More often she is watching the road and checking whether the next exit has backed up. The commute isn't a disaster. It's simply less predictable, and the uncertainty follows her into the morning.

There's no cafeteria. Some nights she remembers to pack lunch before bed, after sorting through what her daughter needs the next day. Other mornings there isn't time. She buys something near the office, or she gets busy and looks up at two o'clock realizing she hasn't eaten much. The healthier, less expensive option is often the one that required planning the night before. None of this is a crisis. It is a sequence of extra decisions that keeps returning.

There are benches outside this office too. She noticed them during her first week and thought she'd use them. Four years later, she still passes them every morning. Nobody sits there. Her colleagues are good people and her manager is reasonable, but nobody leaves the building when a problem stalls. When she reaches that point herself, she stays at her screen a little longer, makes another coffee, and tries again. Going outside isn't forbidden. It simply feels conspicuous in a way it doesn't at the first company. The benches are the same kind of infrastructure. The permission to use them is not.

On a bad traffic day she has to watch the clock, adjust her route, and perhaps arrange for someone else to meet the afternoon school bus. The journey home can leave her with another logistical problem to solve before the evening starts. When

her daughter is sick, she messages her manager to ask whether she can work from home. He says yes, of course, no problem. He's reasonable. But she waited.

Same person. Same neighborhood. Similar distance to work. Different collection of daily conditions.

Neither company has made one decisive choice that explains everything. The difference accumulates across the commute, lunch, the use of outdoor space, and the moments when she can act on her judgment instead of waiting for authorization. Another employee might experience these arrangements differently: a quiet home office may be ideal for someone else, and a train isn't automatically a peaceful place to think. That's why neither version is a universal prescription. A workplace becomes worth choosing through the conditions it offers to the people and tasks it actually serves, not simply by declaring one location the right answer for everyone.

An office doesn't need free massages or an on-tap kombucha fountain to improve that experience. Sometimes it needs a transit connection that works, decent food people can afford, somewhere to step outside, and a culture in which using those things is unremarkable. The small decisions are easy to overlook precisely because none announces itself as an innovation. Together they can change what showing up costs, what it makes possible, and how a person feels about doing it.

8. The Institutional Mismatch

The two Tuesdays suggest that the costs of showing up are set partly before a worker decides to attend. Commuting, permission to step away, access to colleagues, and the work expected on a particular day all affect that calculation. The institutional question is not which location wins in the abstract, but whether the rules governing work can respond to these differences. Start with the decision that shapes a working day before it begins: how people get there.

8.1 The Variable Nobody Put in the Model

Two commutes can both appear as forty-five minutes on a job listing and impose quite different demands. A passenger on a reliable train may be free to read or let yesterday's problem return. A driver navigating uncertain traffic must attend to the road. The clock records the same duration; it does not record what the journey asked of the person making it.

But the difference may run deeper than depletion. A passenger on a predictable train sometimes has an interval in which attention is free to wander, revisit an unresolved problem, or prepare mentally for the day. Driving through uncertain traffic ordinarily requires a different allocation of attention. That contrast creates a plausible opportunity for incubation in the first case, not a guarantee that it occurs, and not evidence that drivers are neurologically incapable of creative

thought. A phone or demanding conversation can fill the train interval just as easily. What matters is how much discretion the journey leaves over one's attention.

The DMN's activity during unstructured time is not random. Mind-wandering can include rehearsing possible futures as well as recalling the past. Research identifies overlapping default-mode regions involved in prospective thought, autobiographical memory, and other internally directed activities (Spreng et al., 2009); it does not establish that any fixed percentage of the network's activity is spent imagining the future. Pham and Taylor's foundational work on mental simulation found that process simulation measurably improves performance outcomes and increases perceived control over upcoming tasks (Pham & Taylor, 1999). A commuter running through the morning's agenda or returning to yesterday's problem may use the interval for mental simulation or open-ended reflection. Those activities are not identical to incubation, and no one can predict whether illumination will arrive when the commuter sits down. The distinction is that the journey can leave room for more than logistics. Sometimes the desk is where the resulting thought gets written down.

Transit access already appears in site-selection decisions as a recruiting and logistics issue. The additional question is what attention the commute leaves available. Predictable travel may support reflection as well as punctuality; difficult travel may arrive as another demand on the resources the working day will require.

The distinction is not distance. Evans, Wener, and Phillips found an association between perceived predictability and stress among rail commuters; their study does not rank predictability as the single most important stressor for every kind of journey (Evans, Wener & Phillips, 2002). In a survey of 212 commuters in Selangor, Malaysia, Mohd Suadi Nata and colleagues reported mental fatigue affecting concentration among 82.1% of respondents (Mohd Suadi Nata et al., 2024). Hobfoll's Conservation of Resources framework provides the mechanism: cognitive resources are finite and depletable, and the commute draws from the same pool as the analytical and creative work waiting at the other end (Hobfoll, 1989). Wener and Evans confirmed that transit commuters show measurably lower stress than drivers covering equivalent distances (Wener & Evans, 2011). Evans and Wener found that rail commuting duration correlates with elevated salivary cortisol (Evans & Wener, 2006). More recent research suggests commute quality — how the experience actually feels — may be at least as important as predictability when both are measured simultaneously (Occupational Health Science, 2023).

A headquarters is often chosen years before an employee makes the daily journey. That real-estate decision determines part of what coming to work costs. Making the route workable does not entitle a company to demand attendance for its own

sake. It does give the company a better reason to ask people to come when shared work needs them.

8.2 What the Evidence Actually Shows

If the rigidity model is wrong about how knowledge work actually produces output, there should be measurable costs to enforcing it. There are.

In 2024, Bloom, Han, and Liang published results from a randomized controlled trial involving 1,612 employees at Trip.com. Participants were assigned, by the parity of their birth dates, to a schedule with two work-from-home days or to five days in the office. During the six-month experiment, the hybrid group had roughly one-third fewer departures and reported greater job satisfaction. Performance reviews and promotion outcomes tracked over the following two years showed no meaningful overall disadvantage. Managers had initially predicted a 2.6% productivity loss; after the experiment, their average prediction turned positive (Bloom, Han & Liang, 2024). The trial supports a benefit to retention without measurable damage to the outcomes it tracked. It did not measure incubation or identify it as the cause of those results.

Ding and Ma examined return-to-office mandates among S&P 500 companies and found that mandates were more likely at firms with weaker prior stock-price performance and certain leadership characteristics. Their observational analysis reported lower employee satisfaction after mandates, without statistically significant improvements in firm performance or value (Ding & Ma, 2024, conference version; updated SSRN working paper, 2026). That is evidence about associations and measured outcomes, not proof that a particular mandate caused an innovation loss. Bloom has argued that real-estate costs and headcount considerations may also influence these decisions (Bloom & Davis, 2023; IT Brew, January 2024). Broader working-from-home research supplies context without identifying incubation as a cause of organizational outcomes (Barrero, Bloom & Davis, 2023).

There is also evidence in favor of being together for particular tasks. In a laboratory study and a field experiment across five countries, Brucks and Levav (2022) found that pairs communicating face to face generated more creative ideas than pairs collaborating by video. They did not find the same disadvantage for choosing which idea to pursue. Measures of visual attention suggested a narrower cognitive focus during videoconferencing. The finding concerns specific collaborative tasks, not the effect of imposing office attendance on every employee. It matters because it grants the office a genuine cognitive advantage in one setting without making it the default answer to every problem. A walk may help individual idea generation; meeting in person may help a pair generate ideas; concentrated work may call for a quiet room. What changes is the task, and with it the conditions that help.

The pattern holds at government scale — and with a particular irony. California has committed to carbon neutrality by 2045 while also emphasizing climate-related reporting and reductions in transport emissions. Those policy goals sit uneasily beside a mandate that can increase commuting; they do not establish that employee-commute emissions were already subject to a universal corporate disclosure requirement in 2026. In March 2025, Governor Newsom issued an executive order mandating that approximately 108,000 state employees return to the office four days per week. California’s State Auditor reported that a Department of General Services dashboard estimated more than 1.2 million commuting hours and 2 million gallons of fuel avoided in **December 2023 alone** through state employee telework (California State Auditor, 2025). The union representing state scientists filed a lawsuit arguing the mandate violated California’s own Environmental Quality Act by failing to assess the environmental impact of putting tens of thousands of additional cars on the road (CASE v. State of California, 2025). The mandate went into effect July 1, 2026, over sustained protest. That juxtaposition does not by itself resolve whether particular jobs required attendance. It does show that the costs of additional journeys deserved attention alongside the stated benefits. In California, both sides of the argument were in the same filing cabinet. The mandate went forward anyway.

Mandates can impose measurable costs on workers and employers, but the available findings do not settle the performance effect of every in-office requirement. A fixed rule that ignores the task being done is harder to justify than a requirement connected to a demonstrated need for people to work together.

8.3 It Was Never Really About the Office

Most RTO mandates impose three constraints simultaneously: a fixed location, fixed days, and fixed hours. No single one of those constraints is obviously unreasonable on its own. What makes the combination a structural mismatch is that it removes the ability to match cognitive environment to cognitive stage on any given day.

Some tasks ask for sustained documentation, verification, or implementation, and a structured desk environment may be ideal. Others demand exploration and reframing, where a change of setting or a release from immediate demands can help. Collaboration adds another requirement: certain questions benefit from colleagues being physically together, as Brucks and Levav (2022) found for creative idea generation. A policy cannot be evaluated simply by counting days away from the office. The problem arises when it applies the same environmental prescription to all of these tasks without distinguishing among them.

That does not make coordination optional. A team may need common hours, scheduled reviews, shared equipment, or time in a room where difficult decisions

can be made together. Managers can see those dependencies in a way an individual worker may not. But coordination is a reason to specify which activities require shared conditions, not automatically a reason to fix every hour of unrelated work in the same place.

The mismatch is not simply about where. It is about when a requirement serves the task and when it overrides the ability to adjust. This helps explain why working from home felt liberating even to some people who had no particular complaint about their office: it gave them latitude to match conditions to the immediate work without that adjustment always being read as absence. In an office, the worker who steps away when a problem stalls, takes a walk at noon, or does the laundry between calls may be using a change in attention constructively. That does not make every interruption productive, but it makes absence from a screen an unreliable proxy for the absence of thinking. In a visible-presence environment, each of these behaviors is indistinguishable from not working. Working from home didn't change what knowledge work requires. It removed the social penalty for doing it correctly.

Tesla recognized the problem of counting intellectual work long before an online status indicator existed. In *My Inventions*, he observed that he could be considered exceptionally industrious if thought counted as labor, yet almost idle if work meant completing a prescribed performance within a fixed time under a rigid rule (Tesla, 1919). It was a personal judgment, not a study of modern office policy. But it names the problem the workplace still faces: visible output and intellectual effort are not interchangeable measures.

The fixed-hours constraint deserves particular scrutiny, because the specific number being fixed has a specific origin that knowledge work has never examined. The forty-hour week has a history in industrial labor organization and reform, not in an experimental account of creative cognition. Ford adopted a five-day, forty-hour schedule in 1926 (Ford Motor Company, 1926). The Fair Labor Standards Act of 1938 initially set a forty-four-hour overtime threshold for covered workers, phasing down to forty hours by 1940; it also established wage and child-labor protections (Fair Labor Standards Act, 1938; Grossman, n.d., U.S. Department of Labor). Those protections were consequential. They were not designed to establish how many hours someone can productively generate or test new ideas. The separate mistake is treating a scheduled hour as an interchangeable unit of intellectual output.

Studies of expert musicians found that deliberate practice was effortful and limited in duration; Ericsson and colleagues described a pattern of several hours of deliberate practice, not a biological ceiling shared by all knowledge workers (Ericsson, Krampe & Tesch-Romer, 1993). Newport later argued for protecting concentrated work, while Microsoft's 2025 Work Trend Index documented heavy interruption

from meetings and digital communication (Newport, 2016; Microsoft Work Trend Index, 2025). Neither source establishes that knowledge workers have a universal two- or three-hour daily limit. The narrower point is sufficient: continuous desk presence does not guarantee continuous high-quality attention, and fixed hours can make it harder to change conditions when the task requires something different.

8.4 What Needing a Mandate Actually Reveals

The number of hours someone spends in one place cannot, by itself, tell us which work was accomplished there. Offices provide real advantages for some kinds of collaboration and coordination. The mistake is treating those advantages as a reason to prescribe the same location and schedule for every kind of task.

There is still a useful difference between attendance people choose because it helps them work and attendance maintained through a requirement. Voluntary attendance can tell an organization something about a workplace’s appeal; mandatory attendance may serve legitimate shared obligations. Neither measure establishes what an employee produced or whether every mandated hour was necessary. The question is which requirements earn their cost through the work they enable.

Superhuman provides an unusually concrete case of changing the terms of attendance instead of simply demanding it. After an uneven attempt to bring employees back, its people team asked what was making the office costly. Workers named empty offices, commuting logistics, childcare, and domestic responsibilities. The company introduced an opt-in program with different attendance commitments and corresponding benefits, including help with commuting and household friction. Teams were asked to coordinate the days they came in, so that choosing the office also meant choosing time with colleagues. The company said it would judge the effort by collaboration, onboarding, decisions, and engagement rather than attendance alone (Mendes, 2026b).

An April 2026 report described a 57% increase in daily attendance and said roughly 75% of employees near hubs had opted into the program (Mendes, 2026a). In June, Superhuman’s own account reported that about 76% of North American hub-based team members had opted into regular office work in the first quarter (Mendes, 2026b). Those figures come from different reporting sources and should not be treated as an identical measurement. They document participation and reported attendance, not a measured change in creativity or incubation.

HSBC supplies another useful comparison, with a different limitation. Reuters reported that attendance at the bank’s new Spiral office in New York reached about 80%, versus about 40% **before the pandemic** at its previous Bryant Park location (Nguyen, 2024). The figures describe different offices and periods and do not isolate the effect of the design. A *Business Insider* account of Pinterest’s Dublin office quoted its workplace-design director describing a 55% increase in

attendance after opening the redesigned space (Business Insider, 2024); that is a reported company outcome, not an experiment. These examples show that conditions, incentives, and coordination arrangements can change attendance. They do not establish that incubation caused anyone to return. What matters for this paper is that organizations can choose to design for desired activities rather than simply count who appears.

The research on what actually earns voluntary attendance confirms what those workers named. Workplace surveys identify privacy, dedicated workspaces, and opportunities for focused work among the features employees value, although their relative importance depends on the question and population surveyed (Steelcase, 2023; NAIOP, 2023). In a field experiment comparing office layouts, Pitchforth and colleagues documented differences in employee experience and desk utilization across specific configurations; the study was not a trial of a general return-to-office policy (Pitchforth et al., 2020). A separate analysis of employment histories at technology and financial firms reported that turnover following RTO mandates was more pronounced among senior and more skilled employees (Ding, Ma, Xing, Yang & Jin, 2024, working paper). That pattern is relevant to retention; it does not establish which employees are best at recognizing their own cognitive needs, nor that managers routinely exempt top performers.

Remote work offers another form of environmental choice. In Buffer’s 2020 survey, most respondents worked primarily from home, but some also used coffee shops or coworking spaces: 27% named a coffee shop as their secondary work location (Buffer, 2020). Scholarship on home–work boundaries and home working conditions helps explain why separating activities can matter (Nippert-Eng, 1996; Stroom et al., 2024). Those sources do not show that respondents changed location specifically to induce incubation. That is a possible application of the paper’s framework, not a measured motivation in the survey.

A related, but different, vocabulary comes from sociologist Ray Oldenburg. He distinguished home, work, and voluntary “third places” such as cafes and libraries, examining their role in social life (Oldenburg, 1989). His account does not establish a discovery/capture mechanism or show that such places induce incubation. Gensler’s workplace research likewise describes employees valuing varied settings and experiences (Gensler, 2021). Those findings help explain the appeal of choice without identifying one ideal location for every task. An office advocate may reasonably emphasize the collaborative work that benefits from meeting in person; a remote-work advocate may reasonably emphasize discretion over where other work happens. An organization has to identify the activities for which attendance adds value and the conditions under which employees can work effectively elsewhere. Making an office worth choosing can attract people; requirements may still be war

ranted for genuine shared work, but compliance alone cannot demonstrate a universal cognitive benefit.

This paper’s stated position, not a research finding: demonstrable performance and legitimate coordination should carry more weight than visible presence alone. The method is a means, not the goal itself.

8.5 The Decision You’re Better Positioned to Make

The deepest version of the rigidity problem is not merely structural — it concerns who knows what. The person doing the work can usually see the immediate shape of the problem better than a policy written months earlier. A manager can see something else: deadlines, handoffs, shared commitments, and situations in which colleagues need to be present together. Neither view is complete. An effective working arrangement has to coordinate the second without unnecessarily discarding the first.

Darwin kept a regular routine, but the routine did not remain identical throughout his life.

Francis Darwin recalled that his father once counted Sandwalk circuits with flints, but later dropped the fixed number and walked according to his strength (F. Darwin, c.1884/Darwin Online). That adjustment was about his physical capacity, not a measurement of intellectual difficulty. The institutional parallel is therefore limited but useful: a rule made in advance cannot always account for the conditions a person encounters when doing the work. The worker may have information about today’s demands that a calendar policy cannot possess months beforehand. Such judgment is not automatically correct, but neither is it replaceable by presence alone.

A worker with a track record of strong performance has evidence about the conditions under which they have delivered. That history does not make every personal preference optimal for the team, but it gives the organization information worth using. A blanket mandate can disregard it even when a narrower rule — requiring co-presence for a particular review, collaboration session, or shared dependency — would serve the actual need. The question is not whether individual judgment should always win. It is why a general calendar rule should override it when there is no task-specific reason to do so.

Gartner’s survey found that strict attendance mandates were associated with lower intent to stay, including among high-performing employees (Gartner, 2024). Separate employment-history research reports more pronounced post-mandate turnover among more skilled workers (Ding, Ma, Xing, Yang & Jin, 2024, working paper). Those findings concern reported attitudes and employee movement; they

do not establish who is best at recognizing their own incubation state. They do suggest a cost to treating task-specific judgment as irrelevant.

The information problem becomes sharper when a policy applies to everyone for the same number of days. Imagine two colleagues assigned to the same project. One needs an afternoon alone to write and test a difficult argument; another needs an hour with a group to resolve conflicting requirements. A rule that places both at the office for three fixed days does not tell us whether either activity will be easier there. It does provide a common schedule, which can be useful for the group. But a schedule is an input into coordination, not an evaluation of the tasks. The relevant managerial judgment is to determine where a shared setting is needed, then resist extending that requirement to unrelated work merely because uniform rules are administratively convenient.

The coffee-badging phenomenon — arriving long enough to register physical presence, then leaving — shows how people can adapt to a metric rather than the underlying goal. That practice differs from signaling availability in a digital workspace, though both raise questions about what the visible measure is asked to represent. Some may be protecting working conditions they find more effective; others may simply be avoiding an unwanted rule. The behavior cannot by itself tell us which. It does show why presence alone is a poor substitute for evaluating what work required and what it produced.

The question for anyone setting a blanket schedule is whether they would accept the same prescription for their own most demanding thinking, regardless of the task. Coordination can justify common hours. It cannot, by itself, tell us which hours will produce someone's best ideas.

8.6 The Status Indicator as Artifact

Open a workplace chat application and the familiar lights appear beside everyone's name. Green means available; yellow means away; red can mean busy or do not disturb. These indicators serve a real purpose. When a colleague needs an answer or a team is coordinating a meeting, knowing who might respond is useful. Microsoft Teams derives presence from signals such as activity, calls, and calendar events; Slack distinguishes active or away availability from the messages people can write in a custom status (Microsoft, n.d.; Slack, n.d.). Neither indicator claims to report how much meaningful work a person has completed. It reports something more limited: whether and how that person appears reachable.

Consider someone stuck on a difficult problem who steps outside to walk. Their screen goes idle, and the indicator may turn yellow. The software has represented that change in availability appropriately. It has not established whether the person stopped working on the problem. Conversely, a green indicator can coexist with an hour of unproductive staring at the same sentence. The ambiguity is not a software

defect. It begins when the workplace asks an availability signal to answer a productivity question. There is no green dot for the incubation stage — not because the software forbids thinking away from a screen, but because a status color cannot observe the quality or content of that thinking.

The organizational consequences of visible signals are more than hypothetical. Cristea and Leonardi (2019) studied two globally distributed product-development companies and described how employees separated from managers developed behaviors that signaled commitment. Those signals could influence access to desirable assignments, but the competition to remain visible also imposed personal costs. Their study concerns organizational signaling in distributed work, not a controlled experiment on the color of a Teams or Slack indicator. Its relevance is the additional step that happens after the software reports availability: someone interprets what can be seen as evidence of dedication.

More recent survey evidence shows how ordinary that pressure can become. In an analysis of 4,395 survey observations from home-based workers in Germany, collected during 2021 and 2022, Abendroth, Lott, and Dummert (2026) found that approximately 40% reported making a special effort to show their work or accomplishments digitally, 36% reported being available outside regular hours, and 7% reported sometimes joining meetings primarily to signal presence. Greater perceived job insecurity was associated with all three behaviors. These are self-reported behaviors and associations, not proof that a particular presence feature caused them or that creativity suffered as a result. They do show that making work visible can become an activity in its own right.

Once visible availability is treated as evidence of commitment, employees can face two tasks: doing the work and demonstrating that they appear to be doing it. Those tasks sometimes coincide and sometimes compete. Activity produces a signal; the workplace interprets the signal; people adjust their activity in response; the signal changes again. That feedback loop is the paper’s proposed account of how a useful coordination measure can become an incomplete performance measure, not an experimentally established causal chain. Adding an ‘incubating’ custom status would not, by itself, solve the inference problem; Teams already offers focus-related states, and Slack permits custom messages (Microsoft, n.d.; Slack, n.d.). The indicator can tell colleagues something about availability. It cannot determine whether the thinking has stopped.

The office and remote-work arguments both become more intelligible once this limit is clear. People advocating for offices often value the structure, human contact, and collaborative occasions those spaces can provide. People advocating for remote work often value control over interruptions, commuting, and the setting in which focused work happens. Neither preference answers every task. The problem begins when a policy makes one of these benefits compulsory for work that does

not need it, or makes the other inaccessible when people genuinely need to meet. The question is no longer which camp wins. It is what each arrangement actually enables.

9. Takeaways

The practical value of this distinction is not a new productivity ritual. It is the ability to recognize when the current arrangement serves the work and when changing it would help. That decision looks different for an individual, a team, a manager, and someone choosing where to put a headquarters.

9.1 For Individuals: Build the Alternation In

For an open-ended problem, walking is worth trying. The strongest behavioral evidence concerns divergent idea generation, not every kind of difficult thinking (Thabane et al., 2026). Darwin's Sandwalk was a regular part of his life rather than a rescue measure for bad afternoons; Tesla later described walking as mentally stimulating (Corners, 1935). A brief walk, a shower, or an undemanding journey can provide a change of attention, though none guarantees an insight. Use the conditions your task responds to, and preserve a way to return to deliberate work when an idea needs checking. If the task is a proof, a difficult calculation, or a decision with a single defensible answer, walking may not improve performance in the same way. That is a reason to attend to the kind of problem instead of applying a fashionable ritual to everything. The practice is to notice when continued deliberate search has stopped producing useful movement and when a change of attention may be worth the time.

That does not mean recording every thought the instant it appears. Rowling wondered whether writing during the delayed train ride would have interrupted the ideas still arriving; her recollection raises a possibility, not a general rule. A notebook is useful when an idea is ready to capture. The more important practice is recognizing the distinction between developing a connection and making it durable. In practice, that may mean carrying a notebook but not reaching for it at every passing association; it may mean leaving a difficult passage unresolved while taking a short walk, then returning to test what changed. Neither habit should become a new mandate. The individual advantage lies in having several ways to work and enough discretion to choose among them.

Movement also has independent benefits. Keith Diaz reported a large real-world study of brief walking breaks and better self-reported mood, energy, and focus; its full research report was still under peer review in the inherited source record (Diaz, 2026). That is a reason to interrupt prolonged sitting, not evidence that a five-minute break will solve a creative problem. Likewise, work on elite deliberate practice and books on deep work inform expectations about sustained attention with

out supplying a universal biological limit for every knowledge worker (Ericsson, Krampe & Tesch-Romer, 1993; Newport, 2016). Protect focused hours and give other forms of thinking room around them.

9.2 For Teams: Make Changing Conditions Ordinary

A team can make it normal to step out, take a walk, or change settings before genuinely generative work, provided it still coordinates the people who need to be present. That is a reasonable practice to test, not a team-level intervention established by the walking experiments. An away indicator should help colleagues coordinate; it should not be treated as evidence that thought has stopped. Teams do not need a special status color for incubation. They need a working culture in which the difference between availability and productivity is understood. That also requires ordinary coordination: tell teammates when something urgent will be delayed, agree on the moments when everyone must be reachable, and judge an experiment with walking meetings by what the group can actually produce. There is no reason to pretend that every break is incubation or every meeting is wasteful. The aim is to remove the penalty for changing conditions when doing so serves the work.

9.3 For Leaders: Remove Friction Before Demanding Attendance

Before asking how to bring people in more often, ask what makes attendance costly and what employees actually need to do together. Reliable transit, affordable food, privacy, usable outdoor space, and opportunities for collaboration affect whether the office is worth choosing. Commute costs are a commonly reported barrier (HealthEquity, 2025). The Tuesday illustration makes the accumulation visible: a cafeteria is not a guarantee of better cognition, and a bench is not an incubation machine, but small decisions can change what an employee must manage before returning to the work.

A strong performer knows something about the conditions under which their work has succeeded; a manager knows the team dependencies the individual may not see. Use both forms of information. State which activities require shared hours or in-person work, then grant discretion where a fixed requirement adds no identifiable value. Evaluate the work and the coordination it required, not simply the visibility of the person completing it. Superhuman's reported shift toward voluntary attendance illustrates an organizational way to ask that question: employees named the obstacles to showing up, while teams coordinated the occasions for which showing up was useful (Mendes, 2026b). The reported attendance changes do not demonstrate improved creativity, but they show a company treating the costs and purposes of attendance as design variables rather than fixed background facts.

9.4 For Workplace Designers: Consider the Journey as Part of the Day

Transit proximity belongs on a headquarters siting agenda for reasons beyond recruitment and punctuality. Commute predictability and quality are associated with stress and well-being (Evans, Wener & Phillips, 2002; Occupational Health Science, 2023). A predictable, undemanding journey may also leave room for reflection, though the studies cited here do not measure creative incubation during commutes. The question is not just whether workers can get to the building. It is what the journey asks of them before the work begins. A shorter trip is not automatically a better one, nor is rail always restful. Crowding, transfers, noise, family scheduling, and reliability can change the experience. Treat the route as one part of the working environment, not simply as a line item on a site-selection map.

10. Closing

Darwin walked the Sandwalk as part of his working life. Tesla later described walking as mentally stimulating. Poincare wrote about unexpected insight after deliberate work; Rowling recalled developing an idea on a delayed train before she could write it down. These accounts differ in their evidence and circumstances. They do not describe a universal method, but they resist a picture of knowledge production measured only by visible time at a desk.

Research on creative thinking adds evidence of interaction between internally directed and executive processes, while walking experiments show benefits for some open-ended idea-generation tasks and less certain effects on single-answer problems (Beaty et al., 2015; Chen et al., 2025; Oppezzo & Schwartz, 2014; Thabane et al., 2026). These findings cannot reconstruct historical moments or prescribe a workforce schedule. They do establish reasons to question the assumption that every cognitive task benefits equally from the same conditions.

The institutional problem begins when an observable part of work substitutes for the whole. A status indicator helps colleagues coordinate; it cannot evaluate the quality of thought. An office can bring people together for collaboration; it does not follow that identical attendance rules serve every task. An employer can expect results and shared commitments while allowing judgment about how those results are produced.

The two Tuesdays made that problem ordinary. A dependable journey, a decent lunch, benches that people actually use, and a manager who knows when permission is unnecessary do not guarantee an insight. Together they can change what a working day demands before the difficult work even begins. Other employees may need different conditions. The task is not to select one perfect arrangement, but to organize around the activities people actually need to perform.

The desk remains indispensable. It is where many ideas are tested, revised, made legible, and shared. The work of capture is not clerical afterthought: it is how an intuition becomes a claim someone else can challenge, a design someone else can build, or a result that survives its author. The argument for discovery has always depended on that other half of the process. The mistake was never building desks or asking people to show up. It was allowing the work easiest to observe to stand for everything required to produce it.

***The desk is where you write it down. It should not
be the only place that counts as work.***

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Appendix A: Historical Accounts of Discovery and Working Conditions

This selected survey records **seventeen historical figures**, ordered approximately by era. A documented walking routine, a retrospective report of an insight, and a story passed down much later are different forms of evidence. The table states what survives and how it is known; terms such as *incubation* remain interpretive

rather than retrospective diagnoses. A case is not evidence that a particular neural network caused a discovery.

Figure	Era / domain	Reported practice or episode	Documentary basis and limitation
Archimedes	3rd c. BCE · mathematics	Bath-related revelation associated with buoyancy	Later narrative / mythologized: Vitruvius, <i>De Architectura</i> , IX; no surviving first-person account. (Vitruvius, c. 25 BCE)
René Descartes	17th c. · philosophy	Three dreams in military winter quarters in 1619	Transmitted retrospective account: Baillet (1691) drew on the now-lost <i>Olympica</i> ; not proof that a unified method was completed in one night (Indiana University Press, n.d.).
Isaac Newton	17th c. · mathematics and physics	Independent mathematical and optical work during plague closures; later apple reminiscence	Institutional chronology + later testimony: Newton Project and Stukeley (1752); no eighteen-month interval of uninterrupted incubation. (Newton Project, n.d.; Stukeley, 1752)
James Watt	18th c. · engineering	A separate-condenser idea recalled on a Glasgow Green walk	Late recollection transmitted through the Hart family, published 1859, not a contemporary field note (Watt/Hart, 1859; Rosen, 2010).
Ludwig van Beethoven	18th–19th c. · music	Regular walks and engagement with natural surroundings	Institutional historical record: Beethoven-Haus; no causal attribution of the <i>Pastoral Symphony</i> to a particular walk. (Beethoven-Haus Bonn, n.d.)
Mary Shelley	19th c. · literature	Waking reverie involving the central image of <i>Frankenstein</i> ; writing began afterward	Retrospective first person: her 1831 introduction recounts the experience of 1816; distinguishes image formation from subsequent writing (Shelley, 1831).

Figure	Era / domain	Reported practice or episode	Documentary basis and limitation
Charles Darwin	19th c. · natural science	Long-standing Sandwalk routine; flint-counted circuits earlier, health-dependent circuits later	Family testimony and archival correspondence: Francis Darwin and Darwin Correspondence Project; not evidence that flints quantified problem difficulty. (Darwin, c. 1884; Darwin Correspondence Project, n.d.)
Pyotr Tchaikovsky	19th c. · music	Regular solitary walking, including a reported two-hour rule	Family biography: Modeste Tchaikovsky, trans. Newmarch (1906); no demonstrated link between named ballets and particular walks. (Tchaikovsky, 1906)
August Kekulé	19th c. · chemistry	Omnibus doze and fireplace imagery recounted in a later speech	Retrospective first person, historically disputed: <i>Benzolfest</i> (1890) and Rocke's historical analysis (2010); not independently verified incidents. (Kekulé, 1890; Rocke, 2010)
Søren Kierkegaard	19th c. · philosophy	Copenhagen walking habit and favorable remarks about thinking while walking	First-person correspondence: 1847 letter, with institutional guide from the University of Copenhagen; not a measurement of creative performance. (Kierkegaard, 1847)
Friedrich Nietzsche	19th c. · philosophy	Walking explicitly valued in his published philosophy	First-person published aphorism: <i>Twilight of the Idols</i> ; exact claims of eight hours walking daily are omitted. (Nietzsche, 1889/1968)
Charles Dickens	19th c. · literature	Frequent extended walks	Secondary biography: Noden (1988) and Ackroyd (1990); attribution of particular novels to walks unestablished. (Noden, 1988; Ackroyd, 1990)
Henri Poincaré	19th–20th c. · mathematics	Focused preparation, sleepless insight, omnibus connection, later verification	Retrospective first person and published theoretical account: 1908 testimony, <i>Le Matin</i> ; his account is not a modern neurological experiment. (Poincaré, 1908/1913; Poincaré, 1908)

Figure	Era / domain	Reported practice or episode	Documentary basis and limitation
Nikola Tesla	19th–20th c. · engineering	Budapest park insight; later explicit valuation of walking	Retrospective autobiography (1919) and 1935 interview: habit is documented, causal origin of the habit is not. (Tesla, 1919; Corners, 1935)
Gustav Mahler	19th–20th c. · music	Natural surroundings, walking, and separate huts for focused composition	Institutional historical record: Mahler Foundation and composing-hut museum; no fixed three-to-four-hour daily walk or blanket claim about all symphonies. (Mahler Foundation, n.d.)
Albert Einstein	20th c. · physics	Regular walking in Princeton, including with Kurt Gödel	Institutional walking record; separately reported possible influence: the Darwin-role-model claim lacks original documentation. (Institute for Advanced Study, n.d.; Princeton University, 2022; Kacevac, 2024)
J.K. Rowling	20th–21st c. · literature	Four hours of imaginative development on a train without a pen; separate airplane sick-bag capture	Archived first-person biography and contemporary report: different circumstances of ideation and documentation. (Rowling, n.d.; Bonomolo, 2017)

Evidence key: *Retrospective first person* means the subject later described an event; *family / transmitted account* means later testimony with its own provenance; *institutional historical record* means a modern scholarly or archival summary; *disputed / mythologized* means the underlying event is not securely established. None of these categories alone validates the essay’s proposed cognitive explanation.

Appendix A.1 — Four Principal Cases Mapped to the Operational Framework

The following table summarizes four principal cases using the paper’s operational framework. It records reported events and limitations, not a verified four-stage neurological timeline. No individual insight is known to have arrived on an assigned schedule.

Figure	Discovery condition (reported)	Interval or habit reported	Capture method described	Scheduled?
Charles Darwin	Daily Sandwalk; early circuits counted with flints, later varied according to his strength	Decades-long walking practice*	Worked and wrote in his study; individual discoveries cannot be timed to particular walks	No specific insight scheduled
Nikola Tesla	Budapest park breakthrough recalled in 1919; walking described as stimulating in 1935	Sudden remembered insight; daily walking self-reported decades later	Immediate sketch in the dirt; further development later	No
Henri Poincare	Concentrated work, sleepless insight after coffee, then deliberate work and an unexpected connection on an excursion	One sleepless night; later omnibus-step insight; no exact interval assumed	Wrote up the first result; checked the geometric connection after returning to Caen	No
J.K. Rowling	Delayed train without a functioning pen; separately, airplane writing on a sick bag	Four hours of reported imaginative development on train; separate undated airplane anecdote	Began writing the book that evening; documented Hogwarts-house idea while on a plane	No

Darwin's routine lasted for decades; his son records a change from counted circuits to walking as strength allowed. The table applies the paper's terms to historical accounts; it does not verify a neurological sequence or show that the duration of a habit equals the duration of any one incubation event.

Appendix B: Framework Glossary

The paper uses two operational terms: *discovery* for the generation and recognition of new possibilities, and *capture* for testing, refining, documenting, and communicating them. Wallas's four stages help unpack a recurring route through creative work. The stages are not mandatory discrete events, spatial categories, or one-to-

one neural states; preparation and verification may recur, and insight can arise during focused work.

Term	Definition	Wallas stage	Neural correlate (qualified)	Institutional implication
Preparation	Focused engagement with a problem: reading, research, repeated attempts, and formation of useful constraints. Prepares material for later synthesis and may itself produce insight.	Preparation (Wallas 1926)	Executive-control processes are often engaged; no unique neural signature is claimed.	Usually legible to institutions through planned tasks and concentrated work; can occur at a desk or elsewhere.
Incubation	Reduced direct engagement with a prepared problem while processing may continue. A walk, shower, journey, or pause can provide the opportunity; not every such interval constitutes incubation.	Incubation (Wallas 1926)	Internally directed cognition can involve DMN activity; incubation is not identified solely by DMN activation.	Often less visible under presence-oriented norms; design can permit intervals of disengagement without treating them as inactivity.
Illumination	Emergence or recognition of a potentially useful connection. Can occur during or after focused work; does not guarantee correctness.	Illumination (Wallas 1926)	DMN–ECN interactions are associated with creative thinking, not a validated one-event neural marker of illumination.	Cannot be scheduled reliably as an outcome; workplaces can influence some conditions without guaranteeing insight.

Term	Definition	Wallas stage	Neural correlate (qualified)	Institutional implication
Capture	Testing, refining, recording, proving, implementing, or communicating a thought so it can be used and checked by others.	Verification (Wallas 1926)	Deliberate control often contributes, but capture cannot be mapped exclusively to ECN activity.	Usually more directly observable and supported institutionally. The critique concerns treating this legible work as the whole process.

Note: This operational model clarifies functions rather than assigning every thought to an exclusive stage. A section’s use of *incubation* is an interpretation unless the cited study specifically measured it.

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