coming to life

cartoon animals and natural

philosophy

t h o m a s   l a m a r r e

introduction

The delight of animation comes of the experience of movement, and the art of animation is, above all, that of *movement*. Attempts to characterize animation, to gauge its marvels, usually speak about the magic of something inanimate *coming to life*, an object, a drawing, strips of paper, a lump of clay. The basic definitions of animation include both bringing to life and making something move (Crafton 2011). Thus, moving and coming to life appear synonymous in animation. This capacity of movement in animation implies a sort of ubiquitous power to bring the most inert, stable, and implausible objects to life. In the context of cel animation, which is the focus of this chapter, the cartoons of Walt Disney are a common point of reference, especially those of the 1930s such as the *Silly Symphonies* in which all manner of inanimate objects start to move, that is, spring to life.

This experience in which 'moving' and 'coming to life' become synonymous has encouraged commentators to see in animation an animistic worldview, a world in which everything is endowed with life force or spirit,

and maybe even soul (Buchan 2011: 33). In his notes on Disney's pre-war cartoons, Sergei Eisenstein writes, "The very idea, if you will, of the animated cartoon is like a direct embodiment of the method of animism" (1988: 44). In animation, movement specifies life, implying a world or worldview in which all nature, all things, all matter, are animate. Different varieties of animation tend to capture different orders of movement, however. Time-lapse photography, for instance, once treated as a variety of animation, captures movements unseen to the human eye. The cartoon animals that come to the fore in cel animation of the 1930s present a very different grasp on nature. Nonetheless, if commentators speak of the animism and vitalism of animation in general, it is because a general experience of 'movement-as-life' seems to underlie these specific forms.

This problematic of 'movement-as-life' is not unknown to film, and from its earliest days, what is now called 'live-action cinema' experimented with in-camera effects and editing techniques that made inanimate objects appear to move and thus to be alive. One might make a case that cinema presents such effects as tricks, thus positing them as supplements to the recording of the movement of actually moving and living entities, whereas animation makes such effects central, thus integrating and normalizing them. But in this context, it isn't especially useful to enter into debates striving to separate animation from cinema definitively, or to subsume one within the other. Film and animation are equally arts of the moving image, with different yet overlapping ways of prolonging the force of movement as it traverses images. Suffice it to say, various conventions, arising around specific materials and techniques, have nonetheless contributed to making movement-as-life a central concern or problematic of animation, and maybe *the* central concern. Yet, I would hasten to add: the specificity of animation does not derive from its materials in a deterministic or teleological fashion. I am not talking about medium specificity per se. The specificity of animation in question here is not confined to those objects identified or cataloged as animated films and animations: it has become localized and condensed in such objects due to various conventions, but ultimately it entails a situation that is not entirely localizable. Animation in this sense may appear in kinds of moving images not classified as animation.

The specification of movement as life brings the problematic of animation close to natural philosophy. The movement-as-life problematic resonates with a philosophical approach rejecting dualism and substantialism, refusing a divide between matter and energy, body and mind, space and time, that is, rejecting what Alfred North Whitehead calls the "bifurcation of nature" (from the title of Ch. 2, Whitehead 1920: 26–48). A series of other philosophers also come to mind in the context of such natural philosophy, among them Mikhail Bakhtin, Henri Bergson, Gilles Deleuze, William James, Brian Massumi, Nishida Kitarô, Miki Kiyoshi,

Gilbert Simondon, Isabelle Stengers, and Tanabe Hajime. As such a series of names attests, natural philosophy is not without its difficulties and risks, and I evoke natural philosophy not to give animation a high conceptual gloss, or to announce a neat fit between all animated films and this lineage of natural philosophy. I turn to natural philosophy to find a way into this specific problematic of animation, movement-as-life.

For sociohistorical and technical reasons, to be taken up below, movement-as-life in animation tended to settle on cartoon animals, and has been prolonged and transformed through them, generating series that unfold both with and against historical conditions. As such, even though I will look at animation historically, with an emphasis on Japanese cartoons of the 1930s, my purpose is not entirely or purely historical (if that were in fact possible). Walter Benjamin's admonition here rings true: "criticism is not, as is often thought, to instruct by means of historical descriptions or to educate through comparisons, but to cognize by immersing itself in the object" (Benjamin 1996: 293). Indeed, the goal here is to immerse thought in animation by running a relay between cartoon animals and natural philosophies.

two kinds of movement

If one builds on Bergson's insights into movement, the problematic of animation can be formulated directly and lucidly. Movement is experienced as life in animation, because animated movement resists division into quantifiable units, defying localization. Movement feels like life because it springs forth in a manner that it is not predictable or containable. At the same time, movement in animation is always being distributed and allotted. It is localized, taking up specific kinds of objects and not others. How then are we to understand this localization of the non-localizable, this localized embodiment of a non-localizable life force?

Norakuro nitōhei (*Stray Black, Private Second Class*, 1935) nicely demonstrates these two kinds of movement (localized and non-localized). It is a short animation directed by Seo Mitsuyo, one of many based on the popular manga by Tagawa Suiho, which began serialization in a boys' magazine, *Shōnen Kurabu*, in 1931. The series centers on a stray black dog, Norakuro, who enters the Japanese army, in which all of the soldiers and commanders are dogs. Unlike the other dogs, Norakuro stands out for his blackness and antics; he is always out of step and out of line. While never intentionally insubordinate or disobedient, he never fails to misconstrue orders or to muddle the simplest tasks. Nonetheless, his misadventures invariably win the day, and across the series, Norakuro is steadily promoted in rank. The Norakuro series thus makes light of the regimentation of daily life in the Japanese army at a time when militarism was serious business. While it consistently presents the triumph of Japan's armed forces over its enemies

(presented as pigs, tigers, monkeys, for instance), it attributes such military success not to obedience and regimentation but to humorous and unexpected actions. This is cartoon warfare.

I have chosen this Norakuro animation precisely because it brings into play a political dimension of movement-as-life in animation, which I will discuss later in terms of the biopolitical. Already, in this brief description of the series, it is probably clear that the question of whether the *Norakuro* series is complicit with, or critical of, Japanese militarism and imperialism verges on a false abstraction. The process of circling endlessly around the question of complicity versus critical resistance may afford some awareness of the history of empire, and yet it will ultimately ask animation to prove itself capable of critical reason or communicative reason, which it cannot do. If we are really interested in animation and in the relation between animation and imperialism or militarism, we cannot rest content with reducing animation to the demands of critical reason. We need to look closer at animation as such, at techniques of the moving image, for it is here that life comes into play within animation. If we wish to consider the circulation and distribution of animation (the emergence of national media empires, so to speak), we would still need to consider the relation between the movement 'internal' to animation and its movement 'out there' in the world, because this is how a media world or media ecology arises. Let's look at movement in Seo Mitsuyo's *Norakuro nitōhei* with such concerns in mind.

It opens with the orb of the sun rising in the sky over the countryside. Figures in the foreground, such as the birds that fly out of the trees to greet the morning light, are animated. But the sun here is not. Instead, an orb drawn on a celluloid sheet is moved in relation to the background layer (**See Figure 5.1 a, b**). Consequently, the sun does not change in size, shape, or luminescence as it rises. Effects of the sun changing in size, shape, and brightness could be achieved using techniques of character animation for the sun. But this cartoon takes the simple and direct approach by sliding
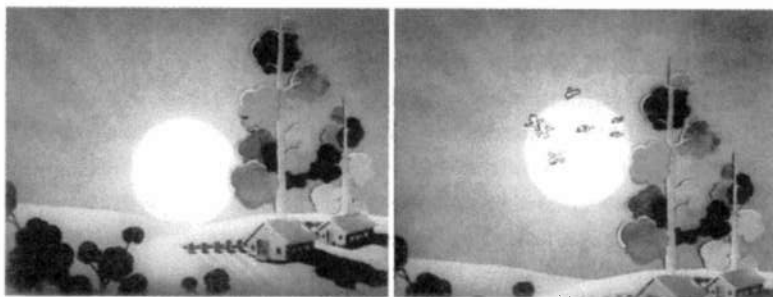
layers of the image, and it is the sliding of layers that imparts a sense of *autonomous yet non-localized movement*. The sun layer moves independently of the landscape layer, and palpably so. What is more, because the layers extend beyond the frame of the image, movement seems to extend beyond the image itself, imparting a sense of a 'movementful' natural world. Such movement is autonomous, non-localized, and relative.

Suddenly, with a very distinct cut, the sequence presents a different kind of movement. As the sun tops the trees, the previously featureless and unchanging orb takes on a smiling face (**See Figure 5.2a**), stretches out its arms, and yawns (**See Figure 5.2b**). This is a form of character animation, which localizes movement within some kind of entity, here the sun. The transition between the two kinds of movement is so palpable, which serves as a reminder that these two kinds of movement entail very different sets of techniques. The first form of movement is a matter of compositing (managing the relation between layers of the image under conditions of movement), while the second entails character animation (drawing the movement of a figure frame-by-frame, or more precisely across a certain number of frames).

Historically, the life of animation has been associated with this second kind of movement, character animation. Indeed, in the opening sequence of *Norakuro nitōhei*, it is the animation of entities, the birds flying forth, the sun stretching and yawning, which catches our eye and holds our attention. Throughout the animation, our attention is drawn to the antics of animated characters, rather than compositing. The scene shifts to a white dog soldier sounding reveille on his bugle, and then within the barracks, there are rows of beds with sleeping soldiers. The soldiers are dogs, uniformly white dogs, with the exception of a little white dog with a black spot (who plays the role of the eager but inept runt), and our stray black, Norakuro. The white dogs all leap from bed for roll call, with the spotted dog frantic to keep up with them, but Norakuro remains slumbering peacefully, oblivious. His bed awakens, however: it sprouts arms and face

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Figure 5.1

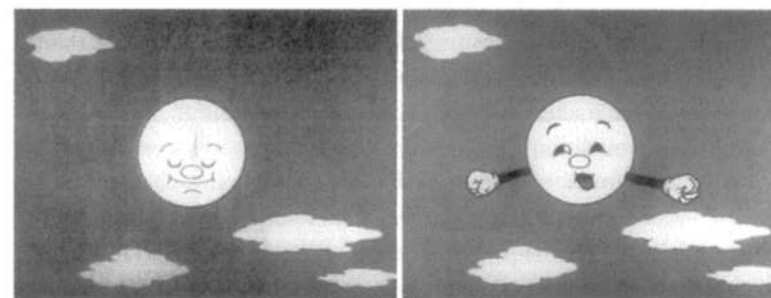(a, b) *Norakuro nittōhei*, dir. Seo Mitsuyo, 1935.

Figure 5.2

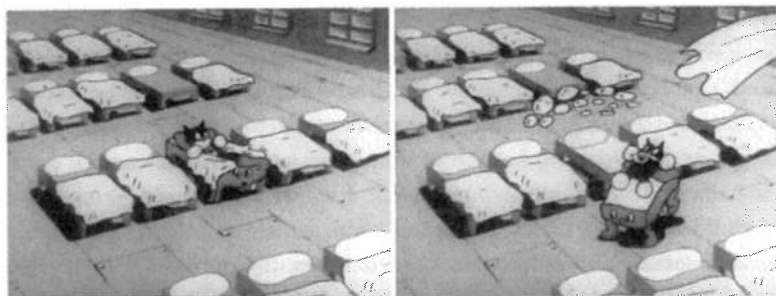(a, b) *Norakuro nittōhei*, dir. Seo Mitsuyo, 1935.

Figure 5.3

(a, b) *Norakuro nittōhei*, dir. Seo Mitsuyo, 1935.

and tries to awaken Norakuro by pulling down his covers (**See Figure 5.3a**). Unable to wake him, the bed bounds out of the barracks (**See Figure 5.3b**), taking the lazy stray black dog to roll call and bouncing him into his place in line. The delight of these opening sequences comes primarily from using techniques of drawing and film photography to endow objects that are not mobile in everyday life (such as the bed) with movement. Or the sun, an object that moves but is not normally considered alive, comes to life, yawning and stretching. Dogs, usually considered alive, are now endowed with another gradation of life, impersonating humans.

Two general questions about animation thus arise from this sequence. First, there is the question of the relation between the two kinds of movement, between compositing and character animation. Second, there is the question of the effects of character animation as it settles in modes of anthropomorphism or impersonation—dogs acting like human soldiers (or maybe it is human soldiers taking on features of dogs), the sun sprouting arms and other humanoid features, and a bed with humanoid face galloping on four legs.

the primacy of compositing

I begin with compositing, because, as I will show, we cannot treat character animation independently of compositing. Why challenge the received emphasis on character animation or object animation as *the* art of movement in animation? First, when we focus on an analysis of movement on character animation, we restrict the field of empirical analysis to a very limited set of techniques. In the case of cel animation, for instance, the emphasis falls almost exclusively on the art of drawing character movement (for instance, key animation and in-between animation).

Second, when we privilege character animation as the art of animation, we establish a hierarchy in which techniques of full animation are constantly privileged over techniques of limited animation. The distinction

between full animation and limited animation is a matter of the number of drawings used per second to animate the movement of characters or other figures within the animated film. Because the projection rate for film is 24 frames per second, the 'fullest' movement would use 24 drawings per second, depicting different instants of the continuous movement in projection. Cel animation rarely used that many drawings. The Disney average, which became the standard for full animation, ran about eighteen drawings per second. We might also think of such full animation as classical animation, in that it set the standards for movement in animation, creating expectations for fluid movement and coherent action.

Limited animation refers to animation that uses fewer drawings per second, and the term is often used too in the context of television animation of the 1950s and 1960s that used as few as eight drawings per second. The most limited animation would use one drawing per second, or maybe one drawing for the entire animation! Clearly, the distinction between full and limited is not absolute or categorical. The distinction between what is full and what is limited is a matter of threshold, and any particular animated film commonly shifts the number of drawings per second for different sequences.

In any case, when we center analysis of movement on character animation first and foremost, we tend to privilege animation that localizes movement in discrete figures or characters, which may rule out a lot of animation in advance. A shift in emphasis to compositing has greater explanatory force in dealing with historical and cultural varieties of animation.

Third, compositing brings into play autonomous non-localized relative movement, which is the ground for the specification of movement-as-life. Character animation localizes movement, but the animation of characters does not have the capacity for an overall composition of the forces of animation. In contrast, compositing affords a key to evaluating the overall coordination of forces in animation, and in that respect, it takes priority over character animation, sequence cutting and editing, and other kinds of technical finesse. Compositing might also be called 'internal editing' or 'internal montage'. Theories of montage can also address the layering or collage-like effects within the image. Nonetheless, because montage theories were primarily developed in the context of the cutting and splicing, I prefer to use the term 'compositing' rather than treat compositing as internal editing or internal montage.

The sequence in *Norakuro nitōhei* in which the bed comes to life confirms this priority of compositing in terms of the experience of movement-as-life. If you look closely at the images in which the bed takes on a face and sprouts arms, the animated bed is clearly layered on top of another layer, a background layer on which the rows of inanimate beds are drawn (**See Figure 5.3a**). Oddly, as the bed comes to life, there are two beds, one

that moves, and one that does not. After the bed has come to life and has begun to gallop out of the barrack, the inanimate bed remains, as if the animate bed were a layer peeled away from the inanimate bed (**See Figure 5.3b**), as if the animate being of the bed were separable from its immobile existence, like the soul leaving its body! Maybe the animators were cutting corners here: they did not bother to draw a second version of the rows of beds with Norakuro's bed missing. Even if they had done so, the effect would be analogous. The animate bed gains its sense of autonomous movement by separating itself from the background layer. Character animation is *in relation to* the gap between layers of the image, and these layers are what compositing strives to manage. In other words, the animate bed is not simply moving against a static background or inert world. It moves in relation to a world that starts and stops, now moving, now resting. That there are 'accidently' two beds in this sequence merely helps to call attention to the importance of compositing.

In sum, the bed coming to life depends on two sets of techniques: compositing and character animation. Compositing builds on the interval between layers of image, which is where the force of the moving image is keenly felt in cel animation, demanding constant attention on the part of animators. Animators have to be careful not to allow the gap to become too palpable (unmooring the character from its world) or to close it entirely (making the character indistinguishable from its world). Character animation channels the non-localized movement into cartoon bodies, condensing and embodying it in facial expressions and moving limbs. As such, character animation does not happen independently of compositing. Nor is it a supplementation of compositing. It is a *localized prolongation* of the force of moving image spreading across the image, which compositing strives to manage.

Compositing, then, is the general *situation* for cel animation, while character animation is the specific *location*. Consequently, precisely because it localizes movement, character animation tends to catch attention, drawing attention away from compositing. This is one reason why character animation is so often treated as *the* art of animation, while compositing is ignored. It is easier to focus attention on localized movement than on non-localized movement. Character animation is, of course, complex and worthy of attention. But it is not all there is to animation. Character animation is like what Deleuze calls the movement-image in the context of cinema: character animation at once subordinates and coordinates a variety of image types and forms of movement. It affords a relatively stable and organized sensorimotor schema that encourages us to give primary to characters' actions and goals.

Full or classic animation, which dominated production from the 1930s to the 1960s (and remains a major force today), has tended to focus attention on character animation. Walt Disney cartoons, especially *Silly Symphonies*, and Fleischer Bros. cartoons such as Betty Boop, Popeye, and

Color Classics were important in establishing techniques for dealing with movement in animation. These cartoons had a major impact on animation and animation theory in Japan. In fact, it is hard not to detect some similarity between the design of the Stray Black Dog (Norakuro) and the early Mickey Mouse, not to mention Felix the Cat. Significantly, as greater emphasis fell on full animation of characters (Max Fleischer received a patent for rotoscoping in 1915), compositing had to be more strictly managed. Fleischer, for instance, developed the stereoptical process, and Disney the multiplane camera system. These systems strive to stabilize the relation between animated body and animated world, thereby assuring that the goals and actions of cartoon characters are grounded in and against a stable, dimensional world. Even today, despite major technical innovations, Pixar frequently adopts similar strategies, claiming such classic cartoons as a source of inspiration (Iwerks 2007).

Classic cel animation places emphasis on fullness of character animation, which consequently demands stricter management of compositing and thus of non-localized movement. In effect, it entails a strict management of the life of animation, integrating it into bodies in order to allow them to work on worlds. Those who don't like this sort of classic animation object to its sense of seamless fluidity and enchanted plentitude, in which animate bodies feel so well integrated, so full of life, regardless of the signs of distress that occasionally flit across their sweet features, that animation comes to appear blissfully immune to the aesthetic shocks of modernism. Adorno makes this sort of argument, attributing a (false) sense of smooth integration to cinema, sometimes due to soundtracks, and sometimes due to fluidity of movement. In his discussion of Disney animation, he detects schooling in sadistic behaviors, that is, a domestication of what he sees as the basically mechanical, fragmenting, and de-totalizing operations of cinema (Hansen 1993).

Yet there is potentially a shock of the modern here. The shock of cel animation occurs largely where compositing or some other experience of non-localized movement comes to the fore. There are various ways for compositing to run counter to classic animation, and for character animation to disintegrate and fall to pieces. Such a shock (a form of modernism) commonly finds itself in the company of animism and vitalism. This is because such animation affords an experience of autonomous non-localized movement, which verges on, or can be 'mistaken' for, life. As with other forms of modernism, the animism and vitalism of cel animation is two-faced. It may turn toward a shock to thought or toward stupefaction (or even sadism). Oddly enough, however, it is not by treating the experience of life in animation as a mistake or illusion that we will arrive at a shock to thought. Paradoxically, we have to regard animation as genuine life in order to confront its potential. Before returning to character animation, I wish to address the question of the illusion of life.

the illusion of life

When I challenge the notion of an illusion of life, this does not mean that I think that an animated dog like Norakuro, for instance, is alive in the same way that an actually living dog is. Rather I wish to challenge an approach to animation that posits the experience of animation as fundamentally illusory or deceptive, and by same token, treats cartoon animals as projections or deceptions, fundamentally without reality. My resistance to the illusion-of-life paradigm also comes of my resistance to an increasingly prevalent tendency to psychologize and even pathologize the relations between animation fans and their objects. This tendency for me is particularly evident in discourses and public policies in Japan addressing so-called otaku culture, which are often consonant with a general tendency to criminalize youth (Galbraith and Lamarre 2010). Such discourses are, of course, not limited to Japan, but I am most familiar with them in that context.

When a government appoints a cartoon animal as a cultural ambassador (as the Japanese Foreign Ministry did in 2008 with a popular manga and anime character, the robot-cat Doraemon), the assumption is that the foreign ministry can treat a cartoon character as real because it understands the difference between fantasy and reality, and its gesture is strategic, symbolic. But the otaku who wishes to legalize marriage with a manga or anime character is assumed to have a very weak grasp on reality and symbolic relations, and is assumed to present a potential danger to society, especially to social reproduction. While such examples may appear extreme, it seems to me that any theory of animation that rules out this dimension of experience (the reality of cartoon characters) by positing it as mistaken, erroneous, or illusory, ultimately fails to deal with the reality of animation. Indeed, the very distinction between fantasy and reality in such a context tends to reproduce received hierarchies. In the above instance, the assumption is that government officials have a better grasp on social reality than 'cult fans' when nothing could be less certain.

The reality/fantasy divide is a special instance of the bifurcation of nature, which in the context of animation tends to settle on a distinction between life and non-life, or between animate and inanimate, which is grounded in a contrast between movement and stasis. The illusion-of-life paradigm, as I am defining it, usually focuses on character animation in cel animation—or something analogous to it, such as forms of stop-motion animation or object animation in which an object or figure is shot in a series of poses whose sequence make for movement when projected. Attention falls especially on the transition from stasis to movement, which is taken as an instance of the inanimate becoming animate, of a coming to life. What characterizes the illusion-of-life paradigm is its interpretation of this situation. It concludes that this coming to life is an illusion of life,

because normally teapots don't sing, beds don't leap, for instance. Their movement or life is thus taken as an illusion. Thus the contrast between motion and stillness is gradually mapped onto a dualist opposition between real life versus artificial life, or between a true experience of life versus a false or illusory experience, which in turn brings into play a divide between nature versus culture and between organism versus mechanism. This series of dualisms is built on exaggerating a situation: focusing attention on the moment of coming to life encourages the illusion-of-life paradigm to think of animation in terms of *adding* movement to objects.

Because it shores up a distinction between reality (real life) and animation (illusory life), the illusion-of-life paradigm brings into play a dualist and substantial ontology, enforcing an absolute distinction between reality and illusion that builds on and reinforces a series of other ontological distinctions: matter and form, stasis and movement, nature and culture, nature and technics. It is true that the illusion-of-life paradigm often tries to scramble and confound this ontological distinction, usually by dwelling on the uncanny, on an experience of the animated object as at once alive and dead. But the dice are now loaded: the divide has become insuperable, and even if one speaks of re-animation (it was alive, and then dead, and then brought to life again), the experience of uncanny often remains confined to the realm of illusion, fantasy, representation. Such a paradigm is ill equipped for dealing with cultural ambassador Doraemon.

When the illusion-of-life paradigm encourages us to think in terms of objects artfully brought to life, the 'work' of animation is reduced in advance to objects that are always already related to a perceiving subject. And the spectator, viewer, or user is posited in advance as a subject, as *the* subject. This is surely why the illusion-of-life paradigm confidently declares that the lively movement of animation is a troubling illusion: if the viewer feels that animated things are somehow alive, it is because the subject has been tricked or confounded, unable to detect the truth of the matter—that movement has been added to an object. In effect, the illusion-of-life paradigm adopts a hylomorphic model, whereby form, construed as active, is imposed upon passive matter from without (Combes 1999: 14).

If we want to take animation seriously, we must challenge this received wisdom. We must insist: animation is not a matter of deceiving subjects by skillfully adding movement to non-living objects or images, by imposing active form on passive materials. Movement in animation is not a matter of illusion or representation. Animation does not represent movement any more than it fakes it. It affords a real experience of movement, of actual movement. Even when the animated film highlights the movement of ordinarily inert objects or the coming to life of something pronounced dead, animation is not a matter of adding movement to objects.

an ecology of perception

We know very well that, just because something moves, does not mean that it is alive. A plastic bag borne aloft by the wind, full of air, swirling and dancing—even if it appears full of life, we know it is not. We might safely call this experience an illusion of life. Yet, when we speak of illusion, two very different models of perception can come into play. On the one hand, we might assume that sensations are inadequate: if we see the plastic bag as full of life, it is because our senses do not give us enough data, and so our brains must constantly fill in, correcting, enriching, and compensating for the poverty of actual stimuli. Such an approach is often associated with Richard Gregory (1966), and characterized as a top-down model in which knowledge and cognition are always adjusting and compensating for a constitutive lack at the level of sensation. On the other hand, there is J. J. Gibson's ecological approach to perception (1979) that takes the stance of a mobile exploring organism: perception is not passively dependent on sensations coming to the organism; rather perception actively seeks information and extracts it. In Gibson's approach, which is frequently characterized as bottom-up, the real world is a rich source of information: the organism does not have to compensate cognitively or intellectually for a fundamental lack; rather it moves around and acts, shaping a world from its environment.

In the context of animation, Gibson's model of perception is useful, not because it is more accurate scientifically (although such a case could be made), but because it allows an approach to the problematic of life in animation that does not reduce the illusion of life to constitutive lack but attends to the potentiality of animation. It seems to me that, if we assume that our perception of movement-as-life in animation is the manifestation of a fundamental lack in our relation to the world for which we are constantly compensating, we then situate animation—and maybe even art in general—as a compensatory mechanism, whether cognitive or libidinal. While there is no doubt that animation or art may serve such a function, that is not all that animation can do. The illusion-of-life paradigm severely curtails the potentiality of animation, reducing it in advance to a mechanism of lack and supplementation.

But how are we to deal with illusion within this 'potentiality paradigm'? How do we speak to the fact that we know that a dancing spoon in an animated film is no more alive than the plastic bag caught in a current of air?

It is often remarked that Gibson's ecological approach to perception does not deal very well with tricks and illusions. This is not entirely true, but it is expedient for me to turn here to Isabelle Stengers' account of the perceptual object in Whitehead's philosophy. Differentiating Whitehead from Kant, she explores her perception of a blue jacket, asking whether perception is primarily a matter of judgment or verification.

Stengers (2011) evokes a situation in which she sees a blue coat and reaches out for it, but it is in fact a hologram: "And if my trusting fingers encountered only the void, my shocked surprise would testify to the fact that *the point was not to verify, but to prolong*" (88; my emphasis). Perception is not first and foremost a matter of verifying if something is real or not, of nailing down correlations between perceptual objects and real objects. Rather, as Whitehead (1920) states, "The perceptual object is the outcome of a habit of experience" (155). Lest we fret that Whitehead has thus transformed reality into "mere habit", Stengers reminds us that "Habit presupposes a world in which a sense-object often signifies a perceptual object: it indicates a wager concerning such a world, and is not added to it like a fiction for which the mind alone would be responsible" (2011: 88).

As in Gibson, perception is not a matter of compensating for the poverty of our senses and striving to verify whether an object is real or not. It is a matter of actively seeking and shaping a world by prolonging an experience into habits, which entail a wager about that world. In the context of the experience of movement-as-life in animation, we might begin by thinking of movement in terms of a sense-object that often signifies a perceptual object—and often a living object, or a vital object. The relation between sensation and perception, and the relation between action and emotion, cannot be readily hierarchized or prioritized into formula such as we feel then we act, or we sense and then we perceive (James 1884). Watching animation, we perceive a moving object as somehow alive; the sensation of motion conveys the perception of a vital object, the *animation-object*, which indicates a wager about this animation-world. We are already part of the event.

In the context of film or fiction, the standard objection to such an approach insists on maintaining a divide between reality and fiction, between natural movement and human-made movement, between natural perception and artificial perception. Simply put, cultural objects are considered secondary to natural objects, and thus belabored and derivative, possibly inferior, and usually illusory or unreal. In contrast, if I here adopt something of Whitehead's rejection of the bifurcation of nature and Deleuze's rejection of the distinction between natural and artificial perception in his cinema books, it is because the nature/culture and reality/fiction divides won't take us very far in understanding the actual force and potentiality of animation. They tend toward a mechanistic conclusion—art and fiction entail libidinal or cognitive compensation for human artificiality, for the fall of humans from Nature.

Still, there is no reason to deny a contrast between fiction and reality, or in the context of animation, between the animation-world and the real world, for such distinction allows for a relation between them. If we return to Stengers' example of reaching for a blue jacket and discovering it is a hologram, the relation is initially one of prolongation. Prolongation is

partial; it entails selection; it is a prolongation of a specific relation or set of relations and its terms. In the instance of cartoon animals, there are different kinds of sensory *semblance*, among them, semblance to humans (hands and feet; bipedal locomotion; human activities like singing, dancing, driving), to non-human animals (ears, whiskers, hooves, animal stances, animal-like locomotion, etc.), and to elastic materials (stretching, squashing, bouncing, etc.). The animation character, as a perceptual object, conveys a relation between these sensory semblances, which are terms of the relation. It doesn't make sense to worry endlessly about whether the cat cartoon animal is 'just' a disguised human, or a misrepresentation of actual animals, or unfaithful to the laws of physics. Or rather, it does not make sense to reduce such characters to misrepresentation or impossibility, unless your goal is, like Plato's, to banish them from the Republic.

Such perceptual objects are the outcome of habits of experience. We would probably be surprised if we reached to grasp the animation-object on the screen, and it responded to our touch in the manner of, say, a real animal or human. As Whitehead stresses, we know we can be fooled, and so we are constantly experimenting to know whether or not we can trust an object, to see if it is illusory or not. The object that emerges victorious from such experimentation, as Stengers reminds us, is what Whitehead calls the physical object. In effect, the animation-object is perceptual object striving to become a physical object but remaining poised between perceptual object and physical object. Thus, animation entails a mode of perceptual experimentation. We experience it as real, for what is staged is our wager. The wager then is *not to verify* the reality of animation-objects but is *how to prolong* the relation between us and the animation world.

plasmaticity

In the remaining drafts and notes for his book on Disney cartoons, Sergei Eisenstein (1988) uses the term 'plasmaticness' to characterize animation. And he devotes a great deal of attention to the elasticity and plasticity of the contour lines of cartoon characters. The deformation and transformation of cartoon characters is one of the major sources of delight in animation—stretching, squashing, inflating, flattening bodies, twisting limbs, and distorting features. But you do not have to stretch, squash, or otherwise deform characters to impart a sense of their vitality. Building on Eisenstein's attention to the elastic contours of characters, we might say that, in the formative years for cel animation in the 1920s and 1930s, there emerged a 'cartoon line' suited to drawing the movement of characters in animation. The contour line of characters had to appear plastic and elastic—able to undergo deformation and to bounce back—in order to assure fluidity of movement across frames. Stiff, rigid lines would have resulted in very different effects—jerky action, quivering contours.

In effect, while there was a great deal of experimentation with drawing styles in the 1910s and 1920s, the art of the hand was gradually adapted to the art of moving images, resulting in conventions of plasmaticness.

In his comments on pre-war Japanese animation and the impact of Disney cartoons, Ōtsuka Eiji (2008) notes that conventions of elasticity impart a sense of the invulnerability and immortality of characters: no matter how violently or cruelly deformed, these forms spring back to life, apparently deathless. We do not expect Norakuro, for instance, to die in battle, any more than the coyote in the *Roadrunner* cartoons or Tom the cat in *Tom and Jerry*. Such animations are very different in tone and technique, but they confirm Ōtsuka's general point about the deathlessness associated with the plasticity of cartoon characters.

Such an outcome—a set of conventions emphasizing the plastic contour line, with animal or animaloid characters, in scenarios full of antic capers, gags, and a sort of slapstick comedy—is not predetermined but historically contingent. It did not have to happen this way. But there are technical factors that guided such developments, making them contingent rather than arbitrary. Particularly important was the use of transparent celluloid sheets (or cels) and the fixity of the camera upon on rostrum in the animation stands that became integral in animation production from the late 1920s. With the camera fixed in place, looking down through the celluloid sheets, there were basically three options for producing a sense of movement. While you could move the camera closer or farther from the sheets, weird effects of depth and focus arose. You could move the camera or any of the celluloid sheets laterally, producing a sliding motion. Although such techniques were used, because they tend to expose the multiple planes of the image, thus undermining a sense of the solidity of the animation world, they were used sparingly in classic cel animation of the 1930s and 1940s. It was not until the rise of limited animation in the television era that sliding cels or moving the drawings began to appear more like art than artifact. And so, in the pre-war era, the art of animation focused largely on the third option—fluid animation of the characters, which meant drawing movement, drawing the shifting position of the character as close to the ideal of frame-by-frame as possible. Thus a great deal of the art of animation came to hinge upon the lines composing the character—the same plasticity that allowed for a more fluid sense of movement also afforded a degree of flexibility encouraging animators to play with fluidity and elasticity, pushing the deformation and transformation of characters. It is not surprising that animation would continually push the limits of elasticity, toying with the affective impact of flattening, twisting, squashing, tweaking, stretching its characters, especially its cartoon animals. Indeed, the use of the plastic cartoon line, with its implied potential for deformation and transformation, tended to make even the human characters appear somehow animaloid, even as cartoon animals

adopted human semblances (humanoid arms and legs, hands and feet, fingers and toes).

Animation differs from cinema in this respect. Jonathan Burt (2002) reminds us that images of animals in cinema have historically evoked concern about cruelty to animals, to the point where we often accept graphic violence to humans on film while balking at intimations of violence to animals. Apparently, North American audiences are fussy about animal cruelty on film, and audiences are given indications that a dog, for instance, is not a real dog before it can be kicked or run over. In contrast, even though animation also places limits on violence to animals, it allows far greater latitude for cruel deformation of animal characters, perhaps because we perceive them as deathless and invulnerable due to their plasmaticness.

This apparent deathlessness or immortality brings us to the paradox of animation: if animated characters are not really alive, why should we worry about their deathlessness? We may be tempted to think of animation as a field from which death has been excluded from the outset, like simulation for Baudrillard (1994). But this is not entirely true. Instead, much like natural philosophy, animation does not begin or end with dualist oppositions, such as life versus death (Cholodenko 2007). If one tries to apply such an opposition to animation, it ultimately turns out that animation is both lifeless and deathless. This does not mean that animation transcends life and death or the opposition between life and death. Instead it means that in animation we cannot sustain the transcendent position guaranteeing such an opposition or bifurcation. The absence of transcendent oppositions does not mean that animation is without distinctions or contrasts, that everything is ultimately life (which would amount to a transcendent unity). It means that animation entertains distinctions without calling for a foundational bifurcation of nature. Even as it proposes contrasts between human and animal, between organic and inorganic, or between organism and mechanism, it tends to generate entities falling between, defying the onset of strict oppositions.

the production of species

We have seen that, in specifying movement as life, animation, as an art of movement, promises to bring anything to life. In effect, the question of life hinges on the potentiality and material tendencies of animation. To explore such potentiality, this chapter has focused on the technical paradigm associated with cel animation, compositing. While I have centered my account on cel animation of the 1930s, I am not trying to account for every animated film produced at that time. Instead, in trying to account for material tendencies, I have highlighted the relation between techniques for dealing with non-localized movement (compositing) and techniques for localizing movement (character animation). I wish to make two basic points.

First, compositing is closer to the operative logic of the apparatus of cel animation, the animation stand. It prolongs and orientates the movement due to film projection (the succession of instants, of images) into non-localized movement between layers of the image. Second, character animation prolongs and orientates the movement of film projection by localizing it in distinct and relatively discrete entities—characters or figures. But at the same time, character animation can only localize movement in relation to a background. It relies on, or situates itself in relation to, compositing. Consequently, compositing entails both a weak or passive synthesis and a strong or active synthesis. It traverses the field of forces of cel animation, providing an overall coordination. As such, the potentiality of cel animation—its 'life'—is not simply a matter of the vitality of its animated characters. The life of animation lies in the reservoir of non-localized movement.

While such insights are derived from the historical formation of cel animation, it should be noted that compositing becomes a matter of great importance in the 1990s as digitally produced special effects and computer-generated imagery became increasingly prevalent in film production. In SFX films, CGI, and digital animation, the question of compositing—of how to hold the layers of the image (and thus the screen world) together—came to the fore. In other words, although these questions of compositing may appear to belong to a lost world, that lost world remains a reservoir of potentiality in the digital era. Indeed, compositing software remains integral to digital animation and cinema.

To return to the question of life, because cel animation entails distinctions or graduations in movement, it tends to introduce distinctions or gradations in life. It does not need a divide between life and death in order to highlight relations between different degrees of life or life forms. Because animation calls attention to relations between life forms, it tends toward evolutionary problematics. This is why it makes sense for an evolutionary biologist like Stephen J. Gould to state parenthetically, all in good fun, "I still prefer *Pinocchio* to *Citizen Kane*" (1980: 100).

Building techniques and conventions for localizing and differentiating forms of movement, animation will frequently gravitate toward certain kinds of scenarios: companion species, human–animal interaction, animal rivalry, love and war between species, human–machine interface, co-emergent entities, and a number of puzzles related to life form interactions. Consequently, the danger faced by animation is similar to those faced by evolutionary theory and natural philosophy, namely, the risk of social Darwinism—the risk of taking life forms (characters) as ideals and thus imposing a hierarchy upon the relation between life forms. We can think about the onset of hierarchy at two levels.

On the one hand, the flexibility of character form makes it potentially available to anyone. Anyone can draw Mickey Mouse and Norakuro, and

even during production, different artists may draw the same character. It is not surprising then that Mickey Mouse and other iconic American cartoon characters (such as Betty Boop and Popeye) begin to appear in Japanese manga and manga films in the 1930s. They are easy to use. What is more, as Miyamoto Hirohito has pointed out, newspapers and children's comic magazines encouraged readers and fans to produce their own stories with popular characters (Miyamoto 2011). Today we are acutely aware of how fans play with characters, because copyright is such a contentious issue, and experimentation with cartoon characters has become a site for apparatuses of power. Certain kinds of legal regulation, such as copyright, come to animation from without. Yet such regulations quickly become enmeshed with the potentiality of animation, leading to a broader field for the exercise of power. We soon have to ask, 'when is a cartoon mouse not Mickey Mouse?' Internal material limits on deformation or transformation become entwined with external limits—which makes for an apparatus in the Foucauldian sense. The character form comes to oscillate between a sort of aesthetic equality (for everyone) and corporate property (for profit), making its 'individuality' or 'persona' a site of potential regulation and conflict.

On the other hand, distinctions between characters are made in two registers. As cartoon animals attest, characters are frequently individualized in terms of species attributes—there are rabbits, birds, dogs, bears, cats, monkeys, humans, and so forth. The interactions of cartoon animals seem to confirm the common sense notion of species—species cannot intermarry. The same time, however, the interactions between these species are so lively and varied that they go far beyond notions of interspecies cooperation or interspecies competition. Often, even when prey and predator species are played off one another in chase and flight scenarios, the hunt or chase itself takes on social connotations in which the prey seductively toys with the hunter, and the two embark on a perverse romance. We might attribute such an overcoming of the biological logic of species to a cultural anthropomorphism. After all, so many cartoon animals have human traits. Yet it would be hasty to conclude that cartoon animals are merely an instance of humanism (in the sense of a human-centered order), or anthropomorphism (a projection of the human onto nature), or even a triumph of culture over nature. The humanoid or anthropomorphic traits of cartoon animals do not center and enthrone the human (Buchan 2012). Instead, the underlying potential for deformation and transformation means that any cartoon 'species' might turn into any other.

Eisenstein notes, "here we have a being represented in drawing, a being of definite form, a being which has attained a definite appearance, and which behaves like the primal protoplasm, not yet possessing a stable form, but capable of assuming any form and which skipping along the rungs of

the evolutionary ladder, attaches itself to any and all forms of animal existence" (1988: 21). It is true that anything can come to life in animation. Yet, when plants and brooms become mobile and animated, they tend to sprout limbs and sport faces, which makes for a sense of animal vitality and mobility. Although the limbs and faces, the fingers and toes, of cartoon animals often evoke the human, Eisenstein is surely correct to conclude that humanity is grounded in animal existence, not the reverse. Much as in evolutionary theory, the human is scandalously dethroned and situated among animals, or more precisely, among species. The human is just another species, a species of animal. The human in animation (and modes of existence in general) will be addressed as species. As such, animation appears resonant with a biopolitical understanding of governance that addresses 'persons' in terms of 'populations'.

the biopolitical

It is at the level of 'human animal species' that we can at last address the question of the relation between animation and empire as posed, for instance, in *Norakuro nitōhei*. Rather than adopt a reflection model in which animation is a reflection or repetition of values articulated elsewhere, we can consider how animation itself—its 'internal operations' so to speak—are part of the process of the creation of value. This is where something is at risk, because the material tendencies of animation cannot be treated in the manner of an autonomous object or physical object, as the prior account of Whitehead and Gibson suggested. The material tendencies of animation entail affective and perceptual experimentation.

In *Norakuro nitōhei*, for instance, the dog regiment, coded as Japanese, runs into trouble with a tiger, which evokes Korea. Norakuro, painted with stripes that make him resemble a tiger cub, is able to approach the fearsome tiger and trick him into swallowing a laughing gas. The dogs cage the tiger and merrily take the tiger into captivity, Norakuro singing and dancing atop the cage in military attire. The animation thus brings into a play a sort of 'speciesism' wherein animals stand into for peoples, cultures, and nations (Lamarre 2008, 2010, 2011). Such speciesism is redolent of racism, particularly insofar as it introduces a hierarchy among life forms, and yet its 'biologization' of difference does not depend primarily on scientific measurement, recording, and classification of physiological or physiognomic differences. Speciesism articulates gradations in animal existence rather than shore up a divide between human and animal in order to dehumanize the enemy. This latter strategy, as John Dower (1986) has shown, was common in American wartime representations of the Japanese enemy, and Warner Brothers and Disney cartoons are no exception.

In contrast, given that the Japanese invasion of neighboring countries was couched in terms of racial liberation, and in light of the general critique

in Japan of the racism implicit in social Darwinism, it is not surprising that Japanese animations, like other cultural productions, would avoid that sort of racism by promoting ideas of coprosperity and pan-Asianism. Indeed, the pan-speciesism of *Norakuro nitōhei* proves surprisingly resonant with pan-Asianism, and its apparently non-technical vitality appears remarkably consonant with Japanese bids for regional prosperity, as in the Greater East Asia Co-Prosperity Sphere. (Under Japanese Empire, and especially in the 1930s, the idea of a Greater Co-Prosperity Sphere—a league of nations autonomous of Western powers, to be led by Japan—gained currency.) But this is not just a problem of Japanese empire. A similar problem troubles the distinction between *zoe* and *bios*, particularly as reinforced by Giorgio Agamben: *zoe* is life as the object of techniques, while *bios* is life as a property of organisms (1998: 11). Agamben famously argues that the nation-state subsumes bare life (*zoe*) under political life (*bios*), and people under the People. As the example of *Norakuro nitōhei* attests, politics of life in animation is situated on the same threshold, and like Agamben (or Antonio Negri), it will run the risk of transcendent universal vitalism when it strives to embody or otherwise localize a non-technicized life in a 'species' or 'people' or 'multitude' in opposition to Western empire.

Animation, however, does not only repeat or reflect social values. It also brings a specific kind of potentiality into play when it shunts the autonomous non-localized movement (life) of compositing into cartoon animals. The danger is that this animal vitality may appear to generate new species and new relations between species (speciesism) in a non-technological manner, without recourse to technique or apparatuses, entirely innocent of its potential and thus of power. Thus the life of animation runs the risk of becoming a universal or transcendent unity that hierarchizes relations as if naturally, organically, beyond technique—in a word, vitalism in the place of social Darwinism. At the same time, the life of animation offers another approach to biopolitics.

It is telling that Eisenstein for instance uses the term plasmaticness, for this term avoids imputing organicism to cartoon animals while highlighting the technicity of their liveliness. Cartoon animals and the associated techniques of character animation are an instance of *bios* in which techniques are applied to life in order to produce new life forms and new relations between them—recalling both eugenics and population management. It is not so surprising then that it is a 'wild type' or 'stray type' (Norakuro) that proves essential to interacting with other species. The other kind of movement, compositing, is akin to *zoe* in that it is prior to and outside character animation. It is not a mere material support for embodied movement. It enables an overall underlying composition of forces, which can be prolonged in different ways, of which cartoon animals are but one. For all that its non-localized tendency may make it feel as if it is a non-technicized life source, it is technicized, yet in a different way than

cartoon animals. Compositing (non-localized movement) troubles the distinction between *zoe* and *bios*, evoking bio-affective technicity rather than sacralizing it.

As the surge in the popularity of animation and the renewed attention to techniques of compositing in digital cinema and animation in the 1990s and 2000s suggests, the implications of this aspect of animation would not be evident until the post-war era, and would be not mobilized until new communications and information technologies made techniques of animation ubiquitous. From the 1960s, cartoon characters became ever more autonomous of their animated films, due in part to multimedia franchising (Steinberg 2012). As the boundaries between media became more tenuous, the 'logic' of compositing was no longer confined to an 'internal' logic of animation but began to enable a new way of composing the material forces that were previously composed within more distinctive media formations (print, television, radio) and sites of production (toy makers, publishers, advertisers). It is not surprising then that species war, interspecies romance, xenocide, genetic manipulation, and extralegal operations against non-legal humans, came to the fore in entertainments using 'expanded' animation—digital animation, SFX films, and video games. For the technical paradigm first articulated in cel animation was primed to address the transformation in the biopolitical from eugenics and population management (and the legacy of the Second World War) toward the bio-affective technicity of contemporary information networks.

coda: new life

A film theorist who wrote extensively on animation and documentary, Imamura Taihei, is credited with the first book-length treatise on animation, *Manga eiga ron* (*On Cartoon Films*) in 1941, revised and republished in 1948 and 1965. Earlier, in 1938, Imamura wrote an essay comparing Japanese cartoons to American cartoons, especially Walt Disney's. Apparently, his viewing of a Japanese short animation, *Kaeru no kenpō* (*Frog Swordsman*), proved so disappointing in its treatment of movement and life that he felt compelled to provide an account of the virtues of Disney cartoons in the hopes of providing some guidelines for improving Japanese animation. He writes,

> In Walt Disney's works, one always feels the vitality and life of movement. The little animals on the screen no longer seem like individual drawings, and everything familiar around us is utterly transformed. Even if the background paintings often look rather mediocre, the joy of life surging up within the moving animals is amazing. As they leap about or lie down, the life force bubbling up on the screen flows through us like wine. It gives arise to the most

delightful feeling of intoxication. Seeing a Disney cartoon even just once, we moderns come to understand what the ancient Dionysian spirit of festive celebration was all about.

These animals are indeed modern-day satyrs. Taken one by one the still drawings do not look particularly lovely at all. A still image of something like Mickey Mouse tends rather to be ugly. How is it that an image crudely drawn in heavy lines without any particular charm, when set in motion, becomes full of life and spirit, and simply put, is no longer a drawing? The secret must lie in movement itself, that which moves the drawings. This secret of movement is the key to what makes Japanese cartoons so dull. (Imamura 1991: 137–138)

Imamura's analysis of cartoons continually stresses that the art of animation lies not in the art of drawing (which he characterizes as spatial) but in movement (which he characterizes as temporal). He argues that animation is, in fact, a temporal art of drawings. As such, cartoons are related to cinema, and Imamura not only uses the term cartoon film or cartoon cinema (*manga eiga*) but also argues that drawings in cartoons are always combined with 'photography' (*shashin*). What precisely Imamura means by *shashin* or photography is a complicated matter, but in this context, it is clear that he wishes to highlight the cinematic 'parsing' (*bunkai*) of movement, that is, the decomposition and recomposition of movement on film. Indeed he frequently qualifies 'photography' as 'photographic filming' (*shashin satsuei*) and argues that truly amazing cartoon sequences use film footage as a model for movement—as with the flight of the Roc at the beginning of the Fleischers' version of *Sinbad the Sailor* (1936).

His analysis here focuses almost exclusively on character animation, and it is in these terms that Japanese animation proves disappointing to him. In fact, as I will show, what Imamura finds disappointing in Japanese cartoons is precisely what orientates them toward the art of compositing rather than character animation. Put another way, he is so interested in the localization of movement that he rules out both non-localized movement and modes of localized movement or embodiment other than those found in Disney and American cartoons (making the classic full animation the standard for judgment). While I do not share his disappointment in Japanese cartoons or his emphasis on full character animation, Imamura's observations on these forms are insightful. And they help to sum up what is at stake in the expanded empiricism of animation that I have undertaken here.

Two aspects of character animation in Japanese cartoons bother Imamura. First, he highlights how movement in Disney cartoons involves a sense of non-arbitrary intentionality, a sort of inner purpose or

psychological motivation. As such, Imamura tends to make goal-orientated action the fundamental criteria for cartoon character movement. Such an emphasis is not so surprising really in his historical context. It is consonant with Deleuze's analysis of a tendency in pre-war national cinemas toward the movement-image, or what other commentators call the classic Hollywood style with reference to American cinema. Imamura's disappointment in Japanese cartoons can be linked to an inability to detect a classic cartoon style (a specifically Japanese tendency of the movement-image) comparable to American cartoons. In historical terms, a Japanese style would not become visible *and* enunciable until the rise of television animation (*terebi anime* or *anime*) in Japan in the 1960s, and its increasingly transnational circulation that led to the global boom in Japanese animation over the past two decades. Because this internationally recognized Japanese style is based largely on techniques of limited animation, Imamura's emphasis on full animation rules out what today interests us.

Second, Imamura champions a sort of 'realism' (*shajitsu*), and his bid for realism builds on 'photography' to address two levels of animation. On the one hand, as we have seen, he champions a cinematic breakdown of movement allowing for frame-by-frame recomposition of cinematic movement in cartoons—an ideal of full animation verging on rotoscoping. On the other hand, he addresses character design. He notes, for instance, that the frog in *Kaeru no kenpō* is not simplified realistically as is the frog in Disney's *The Old Mill* (1937). He suggests that, without some sense of realism in the simplified forms of cartoon characters, their metamorphoses become meaningless, for the character forms are already too close, too similar. Indeed, in **Plate 17**, we see that the frog in *Kaeru no kenpō* is so simplified that it looks akin to the fish it is riding. This tendency is not uncommon in 1930s Japanese cartoons. Take, for instance, *Bōken Dankichi——hyōryūtan* (*Adventurous Dankichi: Adrift*) a short animation from the early 1930s (actual date unknown; based on a manga by Shimada Keizō), in which the context is clearly imperial: the boy hero Dankichi bumps noses with the 'native' chief of South Seas island (**See Figure 5.4**).

Such cartoons suggest that a different set of techniques and conventions were emerging in 1930s Japanese cartoons, which should not be quickly dismissed as being less developed or technically backward, any more than they can be attributed to cultural difference (or 'Japaneseness'), atavistically. The Japanese cartoons make clear that, in character animation, there is always a tension between the degree of 'fullness' of movement and the degree of simplification in character design. In fact, the characters in these Japanese cartoons are at once more simplified *and* more rigid than their Disney or Fleischer counterparts. **Figure 5.4** and **Plate 17** show that plasticity or plastmaticness of line becoming shunted into large bulging eyes and exceedingly rounded shapes, precisely because it is not expressed in the register of fuller movement. As a consequence, as Imamura notes
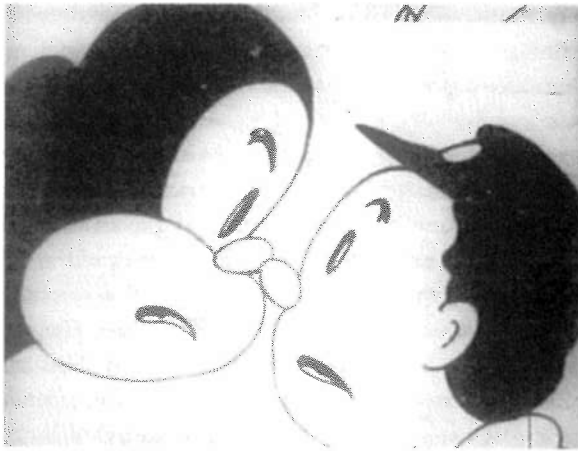
Figure 5.4

Bōken Dankichi—hyōryūtan (*Adventurous Dankichi: Adrift*), a short animation from the early 1930s (actual date unknown; based on a manga by Shimada Keizō).

disparagingly, such cartoon characters do not tend to impart a strong sense of psychological agency or inner purpose, of motivated or directed action. It is as if their rounded bulges allow them to go in any direction. Not surprisingly, as if in anticipation of the rise of limited animation techniques in the television animations of 1960s Japan, these cartoons frequently use the movement of layers of the image (compositing) to produce a sense of movement rather than character animation. In *Bōken Dankichi* (**See Figure 5.4**) for instance, a somersault is achieved by spinning the character upon the background, and even in the still image from *Kaeru no kenpō* (**See Plate 17**), the image is so planar that you can fairly feel the movement between the background layer and the character layer.

Even though the genuinely delightful artistry of American cartoons (and the massive efforts and capital mobilized to put them on screens across the world) made other kinds of cartoons difficult to appreciate at the time, we can in retrospect see in 1930s Japanese cartoons the articula-tion of a different way of specifying movement as life, one that would gain in concreteness in the Japanese limited animation of the post-war era. Such cartoons tend to combine 'cute' (bulging eyes, reduced limbs, rounded forms) with hieratic, even rigid linework. They also tend to highlight the planarity of the image and often resort to sliding layers of the image to impart a sense of movement. Paradoxically, while such techniques are associated with limited animation, which implies limited movement, their specification of movement-as-life is not at all limited. On the contrary, as mentioned previously, because movement is not as localized in character

animation in such cartoons, it troubles a neat divide between *zoe* and *bios*, bringing *zoe* to fore as a site of action and thus of the political.

Consequently, rather than bemoan the lack of realism in character design or the lack of full animation in 1930s Japanese cartoons as Imamura does, we might note that, although Disney's *Little Hiawatha* (1937) deploys the realism of movement that Imumura champions, the cartoon does not escape or resolve the issue of American empire. *Little Hiawatha* is not less imperial or more progressive than *Norakuro nitōhei*, *Kaeru no kenpō*, or *Bōken Dankichi*. It presents, in fact, a different conjuncture of imperialism and liberalism.

These 1930s Japanese cartoons allow us to see a different dimension of the biopolitical, one that we might not have noted without studying animation: letting life happen. In contrast with the critical emphasis on, say, overarching imposition of a human techno-scientific instrumentaliza-tion onto the life world and forms of life (Heidegger), or the reduction of humans to 'bare life' (that is, animal life) as in Agamben, such cartoons show us a game of letting life develop, go its way, follow its course. This happens not in accordance to psychological principles but in accordance with principles and mechanisms of reality (Foucault 2007: 48), which here is the ground and the traversal reality of animation, that is, compositing. Ultimately then, this is what is at stake in immersing natural philosophy in animation: we avoid a simplistic interpretation of the politics of life as sheer instrumentalization or massive reduction, which stances tend to spur either greater instrumental intervention or more *laissez-vivre*. Via natural philosophy, we begin instead to understand how a genealogy of our contemporary politics of media, populations, and economies needs to address cartoon characters as forms of life rather than deceptive illusions.

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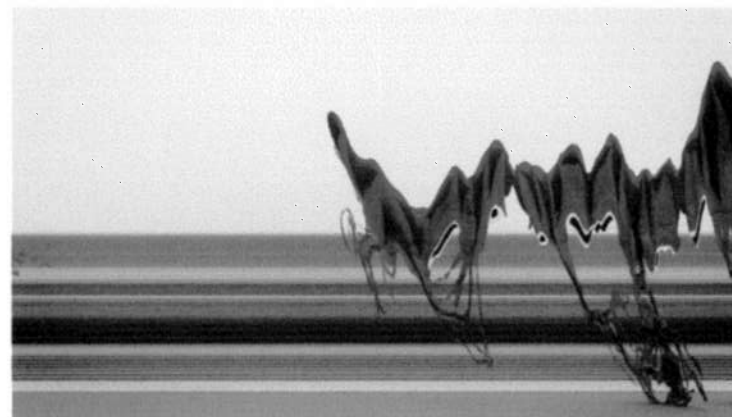
Plate 16. Daniel Crooks, micro-temporalities of the pictured world. *Static No. 13* (2005 continuing). Courtesy of Daniel Crooks and Anna Schwartz Gallery.
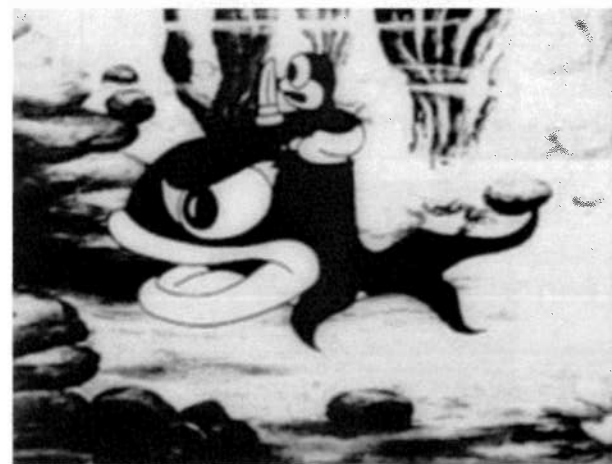

Plate 17. *Kaeru no kenpō*, dir. Ashida Iwao, 1933.
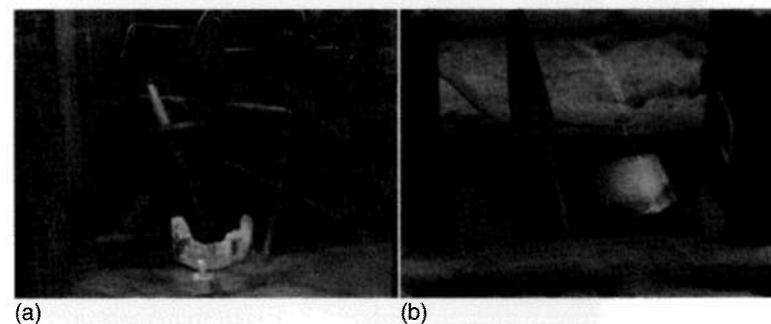

(a)   (b)

Plate 18. A vital machine in a window display (a) that moves in the same rhythm as the rubber band machine; a flap opens and an ice cube materializes as it freezes from a pool of water (b). Screen shots from *Street of Crocodiles*, Quay Brothers, 1986.