Chapter 8: Looking at a world in movement: Rudolf Laban's work in industry[1]

Rudolf Laban's attachment to dance was primordial. At the same time, his dance practice overflowed into the non-performative domain – most notably in the form of amateur movement choirs that were not always staged – and was associated with non-dance fields.[2] Among these, Laban considered labour motions to be particularly relevant to the dance-maker: 'all through history movement on the stage drew its inspiration from the occupational motions of the now most numerous part of the population, the workers'.[3] The most notable example of a connection between dance and work in Laban's early career was his orchestration of Vienna's 1929 *Festzug des Handwerkes und der Gewerbe* [Pageant of the Crafts and Trades], a large-scale event in which professional dancers and workers from different guilds performed dances and choreographically-arranged work movements on mobile platforms along the streets of the Austrian capital.[4] Roughly a decade later, in 1938, Laban left Germany for the United Kingdom, where he remained until the end of his life; there, he reduced his dance-making activity[5] and worked in the field of industry, primarily collaborating with consultant Frederick Lawrence.

1 Parts of this chapter are based on Leon, Anna : Object, Material and Machine in Rudolf Laban's Industrial Dance : Undoing Dichotomies in European Dance Modernity, in : Birringer, Johannes & Fenger, Josephine (eds.) : *Tanz der Dinge/Things that Dance*, Bielefeld : transcript 2019, pp. 89-96.

2 E.g. Laban, Rudolf: *Choreographie: Erstes Heft*, Jena: E. Diederichs 1926, p. 24. See also Maletic, Vera: *Body – Space – Expression: The Development of Rudolf Laban's Movement and Dance Concepts*, Berlin/New York/Amsterdam: Mouton de Gruyter 1987, p. 4.

3 Laban, Rudolf: *The Mastery of Movement* (4th edition), Alton: Dance Books 2011 [1950], p. 93.

4 Cf. Laban, Rudolf: *A Life for Dance: Reminiscences*, London: McDonald and Evans 1975 [1935, trans. Lisa Ullmann], pp. 141–149. See also McCaw, Dick (ed.): *The Laban Sourcebook*, Oxon/New York: Routledge 2011, pp. 139–144.

5 Isabelle Launay situates his last important spectacle in 1936; see Launay, Isabelle: *A la recherche d'une danse moderne: Rudolf Laban, Mary Wigman*, PhD thesis, Saint-Denis: Université Paris 8 1997, p. 10.

While inextricably bound to the socio-political circumstances of their beginnings – during and after WWII, when women were trained in manual factory jobs previously held by men[6] – Laban's activities in industry are also part of the wider framework of 20th-century dance modernity's interest in labour, be it in Western Europe (François Malkovsky), Russia (Ippolit Sokolov), or the United States (Ted Shawn, the New Dance Group).[7] Laban's work is also situated within factory management discourse about how to increase the efficiency of human movement – ranging from Frederick Taylor's "scientific" management[8] to Fordist control of labourers' actions – and the management of non-manual labour, to which Laban also contributed. Laban's work in industry can also be inscribed within a framework of increasing labour mechanisation, compartmentalisation of tasks in assembly lines, and a high concentration of labourers in factory environments. Despite these contextual inscriptions, however, Laban's work in industry – and its effectiveness – is less studied than his other activities.[9]

One of the reasons for this may be that – apart from theoretical works such as *Effort*[10] – the vast majority of relevant materials are found in unpublished notes, letters, reports, notations, etc. that are uniquely available in archives. This chapter draws from Laban's published books; texts from Laban and collaborators, found in Laban Art of Movement Guild journals; as well as unpublished material in the Rudolf Laban collections (Special Collections, Leeds University Library), the Laban Archive (Trinity Laban Conservatoire of Music and Dance), and the Rudolf Laban Archive (University of Surrey). The latter sources – often informal documents pertaining to everyday planning and operation of industrial activities – are written by Laban, Lawrence, and/or their collaborators, and they form a collective authorial figure around Laban's person and ideas. As authorship is sometimes uncertain, this chapter's footnotes indicate how likely it was that

6 Cf. McCaw: *The Laban Sourcebook*, p. 8.

7 On Malkovsky see Bodak, Suzanne: *Philosophie du geste. La Danse libre de François Malkovsky*, France (no city indicated): Ressouvenances 2007, pp. 32, 40; on Sokolov see Bowlt, John E.: Ippolit Sokolov and the Gymnastics of Labor, in: *Experiment* 2 (1996), pp. 411–421 and Suquet, Annie: *L'Eveil des modernités : Une histoire culturelle de la danse (1870-1945)* , Pantin : Centre national de la danse 2012, pp. 624–627.

8 Laban writes that Taylor 'was one of the first people who tried to penetrate the riddle of human movement from an entirely new point of view'. Laban, Rudolf: *Modern Educational Dance*, Plymouth: McDonald and Evans 1975 [1948], pp. 4–5.

9 An important book-length work on this topic is Davies, Eden: *Beyond Dance: Laban's Legacy of Movement Analysis*, New York/Oxon: Routledge 2001.

10 Laban, Rudolf & Lawrence, Frederick Charles: *Effort : Economy of Human Movement* (2nd edition), Plymouth: McDonald and Evans 1979 [1947].

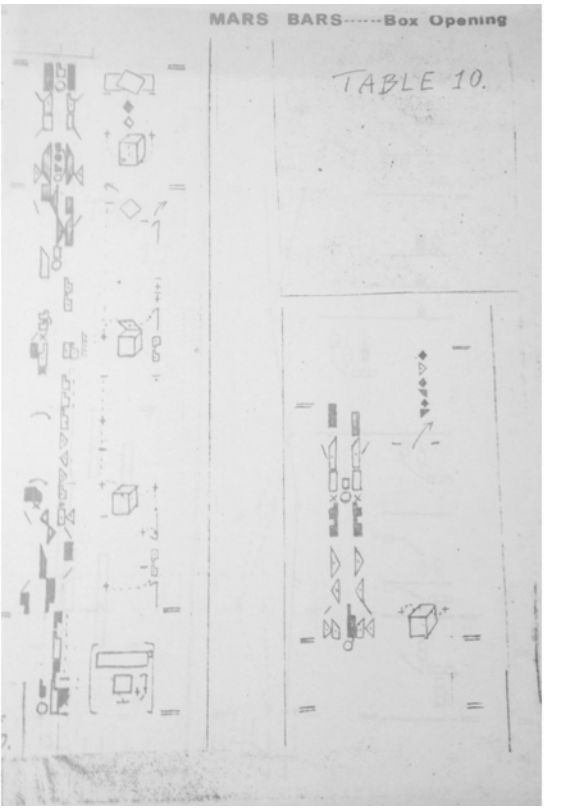
sources were written by Laban himself;[11] nevertheless, documents not (definitely) written by him are still part of his discursive and conceptual universe.

Laban is a canonical figure of German and, more widely, European modern dance; more than exemplifying modernity's choreographic traits, he is, arguably, a historiographically-central figure who played an almost-disproportionate role in determining those very traits. However, Laban's work in industry displays a paradoxical complexity that both confirms and subverts choreographic tendencies of modernity, revealing its potential expandedness. His work is also relevant to a historical perspective on expanded choreography because of its inscription beyond theatrical dance and its role in the history of choreography – both in a revived interest in choreography as notation, and in adapting that interest to 20th-century needs and practices.

Laban and Lawrence's work applied Laban's dance-based knowledge, concepts, and notation system to factory work [Figure 28] and developed kinetic ideas related to industrial activities. This was implemented in consulting projects for food and drink manufacturing (Mars Bars Ltd., J. Lyons & Co.), transport logistics (Manchester Ship Canal Co. Ltd.), equipment production (Tyresoles Ltd.), and farming (Dartington Hall Ltd.). For these and other clients, Laban, Lawrence, and their associates provided training to employees in their job movements, selection advice for recruitment, and proposals for the re-arrangement of work, including performance-based payment schemes. Thus, Laban's work with Lawrence marked a shift from the appropriation and re-contextualisation of labour movement in dance (as had happened in Vienna in 1929) towards an application of dance-derived concepts to labour, without any performative end beyond the accomplishment of the work itself.

11 The first time a source is referenced and if authorship is uncertain.

Figure 28: Detail of Labanotation of the action of opening a box, for Mars Bars. Anonymous, MARS BARS – Box opening, 1942. Image source: Special Collections, Leeds University Library, BC MS 20c Theatre/Hodgson/1/1/151. https://explore.library.leeds.ac.uk/special-collections-explore/419984. Reproduced with the permission © Laban Estate. No re-use without permission.



Laban's work in the industrial field – and, to a certain extent, his work in general – implies a broad conception of what choreography is, in which multiple definitions of choreography coexist. The first is literally and historically inscribed, referring to Raoul Auger Feuillet and choreography as notation [Chapter 2]. Indeed, Kinetography (Labanotation) was adapted to the needs of industrial analysis, and factory work used, and may have contributed towards, the development of a supplementary notation system based on effort. A second conception of choreography active in Laban's mentality is the 20th-century understanding of both dance and choreography as bound to corporeality, as the bodily expression

of an interior psychological state – doubled by an attachment to movement; Laban spoke of dance as 'a total immersion in the *flow* of movement'[12]. This became a cornerstone of the Labanian approach to employee selection, which matched workers to jobs specifically adapted to their movement patterns. A third conception of choreography should also be considered, which places Laban's industrial work in an expanded choreography framework. In this context, Laban questions his own anthropocentrism and attachment to motion, pointing to the early-20th-century's ambivalences around its choreographic models – just as *Relâche* did [Chapter 7]. In doing so, Laban's work on work links with other beyond-human and beyond-motional choreographic approaches, responding to interrogations raised by Domenico da Piacenza and Guglielmo Ebreo da Pesaro's treatises [Chapter 3] as well as William Forsythe's contemporary installations [Chapter 6]. Thus, Laban manifests 20th-century modernity's reconfigurations of problematics also present in early modernity and the present.

Anthropocentrism in question

Laban's activity – in industry and beyond – reflected the 20th century's choreographic focus on a moving corporeality in multiple ways. Even when his work related more to the term's etymology –the literal writing of motion through notation and the inscription of motion in space – than its significance in Laban's modern context, it remained anchored in the body. Laban's notational system – his main tool of observing, analysing, and graphically-encoding movement – grounds its principles of function and its conception of space upon the dancer's corporeality and embodied experience;[13] while the notation allows for subdivisions of the body, its representation of the body as a whole is a shift away from its Feuilletian inspiration. This whole-body representation in the notation was reflected in Laban's factory work; for example, Eden Davies reports that for Mars Bars Ltd. Laban 'devised a system of compensatory exercises and improved the actual wrapping action so that it merged into a whole body movement'.[14] Laban insisted on the specificity of the human body when he suggested his notational

12 Laban: *Modern Educational Dance*, p. 97, emphasis added. In *Choreutics*, Laban writes that '[t]he lasting, uninterrupted flow of organised movement phrases is true dance': Laban, Rudolf: *Choreutics*, London: MacDonald and Evans 1966, p. 93.

13 For example, paths in space are drawn from the embodied perspective of the dancer; the size of steps is judged with a performer's "natural" stride as a reference point. Hutchinson-Guest, Ann: *Choreo-Graphics: A Comparison of Dance Notation Systems from the Fifteenth Century to the Present*, New York: Gordon and Breach 1989, pp. 370, 139.

14 Davies: *Beyond Dance*, p. 27.

work 'could be used only to describe and analyse human movement'.[15] Similarly, the kinesphere – one of the main constructs developed by Laban in order to conceptualise and visualise the inscription of motion in space – is also defined on the basis of the human body – specifically, the spherical space that one can reach with extended limbs.[16]

Laban's practice also aligned itself with 20th-century views of choreography pertaining to human bodies in motion. Alluding to a Delsartean mind-body link, Laban theorised that the moving body was a *locus* of expression of the subject: 'bodily movements consist of elements which create actions reflecting the particular qualities of the inner effort from which they spring'.[17] This relationship also functions inversely: Laban stressed 'the important effect action has on the mental state of the mover'.[18] His notion of effort, to a great extent elaborated in the field of industry – the most important publication on the topic was co-written with Lawrence – contributes to these ideas. Part of Labanian movement analysis, effort theory is less interested in the spatial form of motion than its qualities and dynamics (mostly associated with Eukinetics, analysed through the figure of the dynamosphere).[19] It analyses movement in terms of Space, Time, Weight, and Flow;[20] this is not simply the movement's

15 Laban, Rudolf: *Principles of Dance and Movement Notation*, New York: Dance Horizons 1973 [1956], p. 20. However, in an evolution presumably not planned by Laban and prefiguring the arguments in this chapter, his notation may today be applied to the movement of non-human organisms (notably mammals and birds). Hutchinson-Guest, Ann: *Labanotation: The System of Analyzing and Recording Movement*, New York: Routlege 2005, p. 5.

16 In *Choreutics*, Laban writes: '[i]nnumerable directions radiate from the centre of our body and its kinesphere into infinite space': Laban: *Choreutics*, p. 17.

17 Laban: *Modern Educational Dance*, pp. 25–26. On the associations and parallels between Laban and Delsarte see Maletic: *Body – Space – Expression*, pp. 5, 73, 154.

18 Laban: *Modern Educational Dance*, p. 102.

19 Laban's early definition of eukinetics presents it as a sub-field of choreutics associated with dynamics: '[i]n that part of the study of choreutics which we call eukinetics the dynamic structure of these movements can be exactly determined. The result is a scheme which is comparable to that of orientation in space. The space in which our dynamic actions take place may be called the "dynamosphere"'. Laban: *Choreutics*, p. 30. On the nuances between Effort and Eukinetics, Maletic explains: '[w]hile eukinetics focussed on the expressive qualities in dance […] Effort is concerned with all human movement and its term indicates that unlike energy which exists in all nature in many different forms, Effort can only be found in living organisms and is clearly linked with motivation/intentionality.' Maletic: *Body – Space – Expression*, p. 178.

20 Laban lists eight basic combinations of effort parameters which correspond to basic actions: wringing, pressing, gliding, floating, slashing, flicking, punching, and dabbing. To take two examples, pressing is firm in relation to weight, direct in relation to space, and sustained in relation to time, while flicking is light in relation to weight, flexible in relation to space, and sudden in relation to time. Laban: *Modern Educational Dance*, p. 35.

path, speed, etc., but the "how" of the movement understood in terms of these factors. This analysis assumes that effort is the expression, in movement, of an inner impulse for action, in a sense combining (un)conscious motivation and engaged energy in order to realise an action.[21] As such, effort manifests internal aspects of the person through their corporeal movement; 'pressing, thrusting, wringing, slashing, gliding, dabbing, flicking and floating [actions recurring in Laban's analysis of effort …] are the basic actions of a working person, and, at the same time, the fundamental movements of emotional and mental expression.'[22] In their chapter 'Psychological aspects of effort control', Laban and Lawrence further analysed personality in terms of indulging or resisting the four effort factors: '[n]othing can be expressed in psychological terms until the attitude towards the motion factors Weight, Space, Time and Flow has been determined'.[23]

Despite his association with human-body-centred and human-subject-oriented understandings of choreo(-)graphy, however, Laban also conceived of a non-human choreography; this was strikingly present in his industrial work. This is initially indicated by how the industrial Laban treated the body itself as an object. He was interested in the body as a physiological and mechanical device, comparable to the machines that were also working in factories; '[e]ssentially, the movements of the robot and of man are the same […] There is no bodily action which is not essentially mechanical and even the reactions of the senses are built up on the same principles as cameras, gramophones radio apparatus, and such like'.[24] Laban further considered the body – or specific parts of it – as tools; '[t]he hand is a universal tool. Its movement are [sic] the movement of a pair of pincers, of a shovel, a fork, a hammer, a batter, etc.'[25] Equating the body to the machine has pragmatic

21 Cf. Laban: *The Mastery of Movement*, pp. 9, 21, 169.

22 Laban, Rudolf: *The Mastery of Movement on the Stage*, London: MacDonald and Evans 1950, p. 105.

23 Laban & Lawrence : *Effort*, p. 72, see also p. 67. In *Choreutics*, Laban proposed that 'the inner meaning of movement can perhaps be described by special dynamospheric symbols still more explicitly than by spatial ones': Laban, *Choreutics*, p. 35.

24 Laban Rudolf: Laban Lecture 1962 (Paper II), in: *The Laban Art of Movement Guild Magazine* 29 (1962), p. 16. On the chemical aspect of the body, Laban writes: '[t]he human body is a very complicated mechanic-chemical device […] I can use my fist as a hammer, an action which sets a greater part of the mechanico-chemical device "man" in action'. Laban, Rudolf: The Difference between a Machine and a Human Body, 1942, Rudolf Laban Archive, © University of Surrey, L/E/71/11, pp 1b–2 [handwritten notes, attributed to Laban by handwriting comparison and the archive catalogue]

25 Laban, Rudolf: Movements Involved in Industrial Operations, 1942, Rudolf Laban Archive, © University of Surrey, L/E/75/16, p. 3 [attributed to Laban by the archive catalogue through an attached handwritten manuscript]. Laban also writes: '[t]he working person

implications; Laban warned that 'the value of a labouring man decreases more rapidly through neglect in maintenance as [sic] a machine',[26] thus highlighting that corporeal training of workers was considered upkeep of their corporeal device – or of them as corporeal devices, too.

Laban also stressed the extent to which this human-body-as-device made constant use of objects – from simple tools to complex machinery – while working. An interest in the objects' physical make-up resulted in suggestions for their re-design, in order to make the interaction between workers and equipment easier. To optimally adapt the machine or tool to the human, Laban and his colleagues proposed ways of perfecting the worker's affordances provided by the equipment; these included everything from adding bars to trolleys for better grip to correcting the structure of tables.[27] He also proposed that machines should

> give the operator the most suitable series of stresses and relaxations and of all the other contrasts of effort elements. It is evident that the designer should know enough about effort study and the function of the human body engine, both with regard to structure and effort capacities, so that the controls of his machines are constructed in the most suitable way for easy and rhythmical operation.[28]

But objects are not just peripheral accessories that facilitate working movement by being adapted to human functioning; they also have an active role in influencing the very movements in which they are used. Thus, bidirectionally, 'the

---

might use his bare hands, or a set of tools. Hands are in fact nothing but tools attached to our bodies as living implements'. Laban: *The Mastery of Movement*, p. 88.

26 Laban, Rudolf: Untitled notes, undated, Rudolf Laban Archive, © University of Surrey, L/E/64/70, p. 8 [handwritten notes, attributed to Laban by handwriting comparison and the archive catalogue].

27 Laban-Lawrence Industrial Rhythm: Notes on the Tools and Equipment Designed for Use in the Tea Factory, 1944, Special Collections, Leeds University Library, BC MS 20c Theatre/Hodgson/1/1/146. https://explore.library.leeds.ac.uk/special-collections-explore/41 9979, p. 1; Laban-Lawrence Industrial Rhythm: Rhythm of J Lyons & Company, Greenford, Tea Factory, 1944, Rudolf Laban Archive, © University of Surrey, L/E/72/5, p. 6. Cf. also Paton Lawrence & Company: Movement and Effort Observations, 1948, Rudolf Laban Archive, © University of Surrey, L/E/74/2.

28 Laban, Rudolf [& Lawrence, Frederick Charles?]: The Effort Situation of our Age, undated (Part of typescript report entitled 'Synopsis of a lecture by Rudolf Laban and F.C. Lawrence, at the Manchester Association of Engineers': 'Motion and Movement in Modern Engineering Practice', 3 June 1946), Trinity Laban Conservatoire of Music and Dance, Faculty of Dance, Laban Archive, LC/B/16/320.58, p. 10 [document not signed but attached to a 1946 lecture by Laban and Lawrence; handwriting comparison of corrections to the typed text also support that Laban is its author. Page numbers are not regular].

efficient machine which can be easily operated is driven and assisted by men who should be taught to use their own bodily power in the right way'.[29] Despite the credo that 'machines should be adapted to the men and not the men to the machines'[30] or that machines 'are accidental accessories only, destined to facilitate the function of the real instrumental body which is the cooperating staff consisting of individual workmen',[31] Laban and his colleagues proposed exercises that habituated workers to the objects and machines they operated. These included, for example, suggestions for the efficient use of pedals and levers, and the use of token tools for training with objects.[32] Notwithstanding Laban's discursively-advocated anthropocentrism, the individual *anthropos* had to conform to mechanical rhythm; '[m]ind and body', wrote Laban and Lawrence, 'must sometimes be trained to match the machines as their structure and rhythm become more and more exacting'.[33]

Non-human entities, such as tools and machines, also played a central part in the choreography of work – so much so that Laban suggested that '[i]n the case of highly mechanised processes the importance of body movement fades away almost entirely. It is then the movement of the object, effected by machinery, which must be assessed'.[34] Materials and machines were choreographically analysed through the "dance into industry" metaphor:

> This dance of material is unique to modern industry. Metal melts and flows into moulds, bars or pipes bend, fall to pieces, hover in the air, get into exact positions, branch out or are assembled together through the impact of machines almost *without human interference* […] Logs dance and balance together supported by cranes, turn to the right or the left, stand on their ends and glide down slopes.[35]

A manager or consultant had to understand the choreographic aspects of the non-human since '[h]elplessness towards the rhythm of material is a cause of

29 Laban & Lawrence: *Effort*, p. 8.

30 Paton Lawrence & Company: Movement and Effort Observations, 1948, Rudolf Laban Archive, © University of Surrey, L/E/74/2, p. 8.

31 Laban, Rudolf: The Industrial Concert, undated, Rudolf Laban Archive, © University of Surrey, L/E/77/44, p. 1b [handwritten notes, attributed to Laban by handwriting comparison and the archive catalogue].

32 Rink, Gerda: Hoover – Motion Economy and Industrial Rhythm, 1943, Rudolf Laban Archive, © University of Surrey, L/E/66/17, p. 7.

33 Laban & Lawrence: *Effort*, p. 82.

34 Laban, Rudolf: The Laban Lawrence Method of Effort Assessment, Selection and Effort Training, 1946, Rudolf Laban Archive, © University of Surrey, L/E/33/49, p. 4.

35 Laban, Rudolf: The Revival of Rhythm, undated, Rudolf Laban Archive, © University of Surrey, L/E/57/4, pp. 38–39, emphasis added [attributed to Laban by the archive catalogue].

worries and difficulties very comparable with the helplessness of the operator who does not become aware and is not able to master his own bodily and mental rhythm'.[36]

Against this background that recognises the presence and role of the non-human in industrial activity, Laban's view of choreography – as notation and movement-writing – expanded beyond its human-corporeal forms. The importance of tools and machines in the choreography of work was reflected in "Industrial Kinetography". This adaptation of Laban's notation system to industry was presented as a consequence of the common use of objects by dancers (stage props) and workers (tools).[37] The modified notation covers the movement of both human workers and 'materials, parts, tools and implements which are set in motion or on which work is done';[38] specific symbols for tools and machine parts allowed objects to de-centralise Kinetography – and choreo(-)graphy – away from the human body.

Similarly, a choreography of expressing human interiority through movement also expanded to non-human factory workers. Indeed, the most striking way Laban acknowledges the non-human in his choreography of work is through the attribution of effort to machines. Some of Laban's writings deny this possibility, marginalising the inorganic:

> No matter whether the exertion appears to be more bodily or mental, there is always at its origin a process which can be compared to the switching on of an electric current. This primary function is the exclusive privilege of living beings. No inanimate object can make an effort.[39]

---

36 Laban, Rudolf: Untitled notes, undated, Rudolf Laban Archive, © University of Surrey, L/E/77/34, pp. b2–c [handwritten notes, attributed to Laban by handwriting comparison and the archive catalogue].

37 'The special application which movement notation has found in industry has developed from the fact that dancers frequently handle objects and tools, i.e. stage properties, when on the stage. The close connection between the movements made when handling stage properties and those used in industrial operations is obvious'. Laban: *Principles of Dance and Movement Notation*, p. 19.

38 Laban, Rudolf: Laban Lawrence Industrial Notation, 1943, Rudolf Laban Archive, © University of Surrey, L/E/22/3, pp. 3 and 4 for a mention of specific tools. [attributed to Laban by the archive catalogue]. See also Laban, Rudolf: Industrial Kinetography (Laban), undated, Rudolf Laban Archive, © University of Surrey, L/E/66/2 [handwritten notes, attributed to Laban by handwriting comparison and the archive catalogue].

39 Laban: *The Mastery of Movement*, p. 169. This quotation focusses on the "inorganic", implying that organic non-human beings could display effort patterns. This is, in effect, the case; however, human actors are still considered superior in their relevance to effort analysis: 'the effort-characteristics of men are much more varied and variable than those of animals'. Laban: *The Mastery of Movement on the Stage*, p. 11, see also p. 13. *Effort* expresses a similar idea: '[i]t is true that the tremendous motion which is shown in the

However, in the practice of industrial consulting, machine and human movement were analysed in the same terms of effort: '[m]achinery and implements, which can be considered as an extension of human body powers, can be assessed in their effects in W[eight] S[space] T[ime] and F[low] in a similar way as the movement functions of the body itself'.[40] Laban also considered using effort graphs – which display effort qualities through a combination of strokes – to represent mechanical movements.[41] Therefore, machines may not have initiated effort-laden movements or possess human-like inner impulses, but they can embody and manifest effort. They perform a specific kind of effort, in which the dynamic qualities of movement are found, even if these movements are not associated with the machine's inner state.

Thus, in his choreography of work, the differences between the human and the non-human body – in terms of physical make-up and movement qualities – were more vague than Laban himself suggested. The embodied subject was also seen as a device-like, mechanically-functioning, working body, while Laban's conception of the machine was, in Isabelle Launay's words, '*un modèle non mécanique de la machine* [a non-mechanical model of the machine]'[42] – one that can *embody* intentional states even if it cannot *generate* them. Despite the human being considered superior to the machine, Laban's work indicates that the machine has more agency than may be immediately apparent, reconfiguring the hierarchy of work towards a more horizontal, non-anthropocentric organisation. Laban's thinking and practice thus displayed a fundamental interest in the centrality of the human body while simultaneously challenging this centrality, recognising the role of inorganic materiality. In this framework, conceptions of choreography-as-writing were re-activated and linked with human corporeality, but could also be adapted to the non-human. Modern conceptions of choreography associated with the moving-body were reflected through a focus

---

flow of material in modern industry is a part of this investigation, but its main value lies in the recognition that behind this terrific flow there is always the bodily-mental effort of an individual. No mechanisation can eliminate human effort; the handling of the powers of nature must be done by humans'. Laban & Lawrence: *Effort*, p. 73.

40 Laban, Rudolf [& Lawrence, Frederick Charles?]: New Efforts Appearing in Massagglomerations, undated (Part of typescript report entitled 'Synopsis of a lecture by Rudolf Laban and F.C. Lawrence, at the Manchester Association of Engineers': 'Motion and Movement in Modern Engineering Practice', 3 June 1946), Trinity Laban Conservatoire of Music and Dance, Faculty of Dance, Laban Archive, LC/B/16/320.58, p. 31 [document not signed but attached to a 1946 lecture by Laban and Lawrence. Overlaps with handwritten notes by Laban, suggesting he is its author. Page numbers are not regular].

41 Laban or a Laban-based analyst writes of '[t]he employment of effort graphs for the assessment of machine functions and the use of machines in industry'. Anonymous: The Flow of Material, undated, Rudolf Laban Archive, © University of Surrey, L/E/75/11, p. 1.

42 Launay: *A la recherche d'une danse moderne*, p. 95.

on the human body's kinetic expression, but could also expand towards movement qualities discerned in the actions of things. In this way, Laban's factories displayed both a human-centred choreography and a hybrid, expanded, non-anthropocentric one, stressing the need to historiographically acknowledge the – perhaps contradictory – plural nature of Laban's choreographic views. His focus on human corporeality thus anchors him in the physicalised 20th-century choreographic landscape, but it does not preclude him from relating to earlier – like Guglielmo's non-anthropocentric views [Chapter 3] – or later – like Forsythe's dancing trees [Chapter 6] – choreographic embracings of the non-human.

Expanded movement

Laban's view of choreography was not only anchored in human corporeality. As suggested by the motional analysis of effort, it was also founded upon this corporeality's being-in-motion. This kinetic attachment – be it in factories or beyond – was, in turn, implicated in the relations – and dichotomies – he envisaged between human and non-human entities. Echoing Forsythe [Chapter 6] and later theorisations of affordance, Laban espoused that objects, products, and equipment may invite, or generate, motion. He tried to understand the movement qualities necessary for operating new products and machinery – the movements they required their users to perform (one of the devices Laban considered capable of producing qualitatively new movement experiences was the war-related mechanism of the parachute[43]). But some of his observations led to a pessimistic conclusion; he noted that new products and pieces of equipment could generate nothing more than jerks, micro-movements, or even immobility in their users. Identifying a possible elimination of (loco)motion though mechanisation, Laban writes: '[w]e live in a time of racing machines, destined to take soon the last vestige of motion out of us'.[44] Furthermore, Laban theorised that modern lifestyles would concentrate "mental mobility" – the new way to display human mobile skills.[45] An antagonism thus appears in a humanity confined to corporeal motionlessness, partly because of mechanical and other equipment. But just like the unclear limits between the human and

43 Laban & Lawrence: *Effort*, p. 83.

44 Laban, Rudolf: The Renaissance of the Art of Movement, undated [1946?], Rudolf Laban Archive, © University of Surrey, L/E/74/1, p. 3 [handwritten notes, attributed to Laban by handwriting comparison].

45 Laban, Rudolf: The Renaissance of the Art of Movement, undated [1946?], Rudolf Laban Archive, © University of Surrey, L/E/74/1, pp. 3b–4a.

the non-human, the limits between movement and non-movement are not clear-cut. Undoing this double dichotomy points to a further expansion of Laban's choreography, diverging from its association with a kinetic human body.

Laban's analysis of micro-movement – possibly relating to the exhaustion of 'the last vestige of motion out of us' (quoted above) – starts with a focus on human subjects. In the field of work, he was interested in analysing and assessing not only manual labour motions but also "minimal" movements in white-collar, office jobs. The liminal status of office work, in which 'visible rhythm of movement seems to disappear entirely', was interesting because it still consumed 'rhythmical energy'.[46] This imperceptible movement is related to the Labanian notion of "shadow moves" – slight, often unconscious micro-movements which accompany larger movements or (apparent) immobility (e.g. sitting). The analysis of shadow movements complemented and nuanced a worker's effort graph, expanded motional assessment to managerial positions, and played a role in the evaluation of the working person.[47] Moreover, Laban's writings imply that in shadow movement the rhythms and effort patterns that a person has been habituated, or forced, to absorb are made visible; '[w]atching workmen departing in the late afternoon from factories, one can recognise the rhythms which they have exercised during the day in the flow of their tired or excited shadow moves'.[48] In other words, shadow moves reflect traces of previous movement that have shaped a person's body.

But, this vision of movement was not restricted to human subjects; just as shadow movements indicate movement-traces in the person, Laban saw, in objects, traces of the movements that created them. The movements executed in creating something are perceivable in the resulting form; '[w]hen the dancer looks at an object – be it an instrument, a container or a roof – then the image of movements and thoughts, even the feelings of the people who created the article, becomes immediately alive'.[49] In this perspective, an object contains traces of movement, even in its immobile state; it manifests the movement process that resulted in it. In this way, the relevance of movement in immobile, non-motorised objects is identified, focussing not on *their movement* but on them *in terms of movement*. The movements of production in the field of

46 Anonymous: The Rhythm of the Office Worker III, 1943, Rudolf Laban Archive, © University of Surrey, L/E/66/13, p. 1.

47 Warren Lamb points at the – unfalsifiable – reliance that Laban exhibited in favour of shadow movement analysis: 'Laban made much use of the shadow movement category to substantiate his conclusion about a person. "You can see from her shadow movements" he would say "that she is disequilibrated"'. Lamb, Warren: The Development of Action Profiling (Part 1), in: *Action News* 1978, unpaginated.

48 Laban: *The Mastery of Movement*, p. 124.

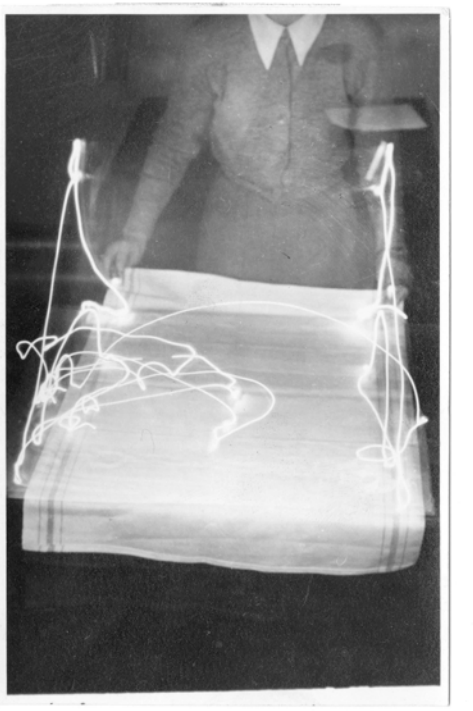
49 Quoted in McCaw: *The Laban Sourcebook*, p. 64.

work provided Laban the opportunity to observe the relationship between the actions performed by workers and the result of their labour. He saw an interaction, and a connection, between product and producer: '[i]n work, a physical-spiritual-mental exchange of forces must take place between the creator and his creation'.[50] Consequently, he considered that the product of work depends on, and embodies, the work processes and intentions that created it: '[w]ell conceived and applied, rhythm of operational performance is the congenial link between the idea of the planning designer and the perfect fulfilment of his intentions *in* the product by the manual worker'.[51] In a fascinating series of photographs in the Rudolf Laban Archive of the University of Surrey [one is reproduced in Figure 29], workers' movements are captured by "lightlines" – bright lines tracing their trajectories, allowing a timelapse to be condensed into one image – thus manifesting the outcome of their work (a folded tea towel, a set of medicine vials packed in cartons) in terms of their movements.

50 Quoted in ibid., p. 64.

51 Laban, Rudolf: The Rhythm of the Operator II, 1943, Rudolf Laban Archive, © University of Surrey, L/E/65/42, p. 16, emphasis added [attributed to Laban by handwriting comparison and the archive catalogue].

Figure 29: A photograph showing the lightlines from folding a tea towel, 1952 (L/F/3/19). From the Rudolf Laban Archive, University of Surrey, © University of Surrey. No re-use without permission.



The relevance of movement to immobile objects is not limited to what their human creators may have done, but also concerns inorganic objects themselves, to which Laban extended the organic notion of growth: 'the manufacture of an

object is a process almost comparable to the growth of a living organism'.[52] Growth can be modified and directed by external sources but is an inherent tendency of the organism; similarly, Laban's use of the concept highlights that while human action can influence manufactured products' form, materials contribute to, and interact with, these actions. Beyond identifying the external movements that created an object in its form, Laban identified internal movement proclivities in materials:

> Movement is indicated in the shapes of all things. Not only that movement is indicated to which an object or a life form owes its final shape, such as the movement of development and growth. There is also that movement which seeks to break out of the shape, the gravity and weight of a large rock indicate the enormous force with which it could fall into the valley as part of an avalanche. The grace of a plant indicates the movements by means of which it is ready to push out a blossom from its stem, the blossom from which later sprouts fruit and new seed.[53]

Laban's vision – of micro-movement, movement-traces, and movement-proclivities present in immobility – are part of a wider motion-bound conception of the world surrounding him; he applied this conception to human and non-human, animate and inanimate, organic and inorganic, locomotor and immobile entities – comparable to a choreographic perspective on willow trees [Chapter 6]. Indeed, if movement is relevant when displacement is minimal, this is because Laban, (as well as some of his contemporary and Renaissance colleagues [Chapter 3]) saw the entire universe as being in motion, despite apparent stillness. Warren Lamb, one of his long-time collaborators, recounts that 'Laban was so absorbed by movement. The world consisted in movement. Stillness for him was something that he abhorred. He would often refer to everything as being in a state of flux'.[54] For Laban, thinking itself was performed through motion: '[o]ne's thoughts move in and through one's mind and so do one's feel-

52 Laban, Rudolf [& Lawrence, Frederick Charles?]: New Efforts Appearing in Massagglomerations, undated (Part of typescript report entitled 'Synopsis of a lecture by Rudolf Laban and F.C. Lawrence, at the Manchester Association of Engineers': 'Motion and Movement in Modern Engineering Practice' 3 June 1946). Trinity Laban Conservatoire of Music and Dance, Faculty of Dance, Laban Archive, LC/B/16/320.58, p. 36.

53 Laban, Rudolf: *Gymnastics and Dancing* (typescript of translation commissioned by Gordon Curl), 1926, Special Collections, Leeds University Library, BC MS 20c Theatre/Hodgson/1/1/65. https://explore.library.leeds.ac.uk/special-collections-explore/419899, Part 2, p. 9.

54 Quoted in McCaw, Dick: *An Eye for Movement: Warren Lamb's Career in Movement Analysis*, London: Brechin Books 2006, p. 115.

ings, which are therefore called emotions […] or results of moving'.[55] Some of Laban's more-pragmatic industry collaborators may have considered such beliefs more akin to mysticism than useful choreographic thinking.[56] Nevertheless, his universal vision of movement might have been – more than just one of the widely-applicable dance metaphors present since the early-20th century[57] – related to the very model through which he conceived of industry. Beyond the motions performed within it, the factory can be understood through Laban's vision of a world in rhythmical movement.

Initially, this factory choreography concerns human teamwork. Possibly following the movement-choir-related idea of collective rhythm, a vision of the factory as an orchestra – a large-scale rhythmic entity that needs to work harmoniously – was developed. Workers in different levels of production and management can thus

> be compared with musicians who play a special instrument in a great symphony […] As soon as they understand the common purpose and their personal role within it, they will fit into the rhythm of the whole without any outside driving, because of their enjoyment in the resulting harmony.[58]

Parallel notations juxtaposed each worker's rhythm to that of others, 'like the various voices of music in a score'.[59] The consultant's role was to understand

---

55 Laban, Rudolf: Laban Lecture 1957, in: *The Laban Art of Movement Guild Magazine* 18 (1957), p.11.

56 Lamb remembers: '[a] word he used a lot was Cosmos. He would talk with me quite a lot about his Space Harmony research, and he really believed that he was touching on something that was of immense, epoch-making significance and that nobody else would have much of a glimmer of what he was talking about. […] I got the impression of a man who explored and rambled in a way about all sorts of things, many of which were mystical'. Quoted in McCaw: *An Eye for Movement*, p. 29.

57 On this topic see Köhler, Kristina: Dance as Metaphor – Metaphor as Dance: Transfigurations of Dance in Culture and Aesthetics around 1900, in: Grabes, Herbert (ed.): *Metaphors Shaping Culture and Theory*, Tübingen: Narr 2009, pp. 163–178.

58 Laban, Rudolf [& Lawrence, Frederick Charles?]: New Efforts Appearing in Massagglomerations, undated (Part of typescript report entitled 'Synopsis of a lecture by Rudolf Laban and F.C. Lawrence, at the Manchester Association of Engineers': 'Motion and Movement in Modern Engineering Practice', 3 June 1946); Trinity Laban Conservatoire of Music and Dance, Faculty of Dance, Laban Archive, LC/B/16/320.58, p. 36.

59 Laban, Rudolf [& Lawrence, Frederick Charles?]: New Efforts Appearing in Massagglomerations, undated (Part of typescript report entitled 'Synopsis of a lecture by Rudolf Laban and F.C. Lawrence, at the Manchester Association of Engineers': 'Motion and Movement in Modern Engineering Practice', 3 June 1946), Trinity Laban Conservatoire of Music and Dance, Faculty of Dance, Laban Archive, LC/B/16/320.58, p. 30. See also Laban & Lawrence: *Effort*, pp. 86–87.

and possibly orchestrate this rhythm, working beyond the scale of the person on the supra-subjective level of collective movement.

Expanding the focus to the parallel actions of people and objects, Laban, Lawrence, and their colleagues developed consulting propositions that concerned the management of factories as a whole. By focussing on the flow of material through production lines, they could identify mistimings between these flows and workers' individual paces; by considering flow in the transfer of goods, they could re-orchestrate the coordination between human teams, crane drivers, transport machines, and goods to optimise dock works.[60] In order to make such analyses, Laban-Lawrence industrial movement notation included, beyond the movements of people and objects, 'the transport and flow of material through different departments of a production unit and [the] graphic representation of the rhythm of the manifold activities within a factory'.[61] Even though Laban did not attempt a single effort graph of an entire unit/factory in the consulted archival material, his writings imply that effort notions could apply to humans, objects, and 'the whole flow of material in production';[62] the qualitative dynamics of movement therefore also concerned the collective scale of the assembly line or factory.

While workers, materials, and machinery did *move* within industrial processes, the choreographic relevance of the factory went beyond the actual performance of motion, to stillness as an aspect of mobility, rather than its Other. Laban writes:

> The personification of objects, and the belief that inorganic nature lives, have their source in the intuitive awareness of the universal and absolute presence of movement. This primitive view is an intuitive confirmation of the scientifically proved truth that what we call equilibrium is never complete stability or a standstill, but the result of two contrasting qualities of mobility.[63]

60 For example: Paton Lawrence & Company: Economy of Effort, 1943, Rudolf Laban Archive, © University of Surrey, L/E/74/5, p. 2; Paton Lawrence & Company: First Investigation into the Flow of Dock Work, 1946, Rudolf Laban Archive, © University of Surrey, L/E/73/14, p. ii.

61 Laban, Rudolf: Laban Lawrence Industrial Notation, 1943, Rudolf Laban Archive, © University of Surrey, L/E/22/3, p. 5.

62 Laban, Rudolf [& Lawrence, Frederick Charles?]: New Efforts Appearing in Massagglomerations, undated (Part of typescript report entitled 'Synopsis of a lecture by Rudolf Laban and F.C. Lawrence, at the Manchester Association of Engineers': 'Motion and Movement in Modern Engineering Practice', 3 June 1946), Trinity Laban Conservatoire of Music and Dance, Faculty of Dance, Laban Archive, LC/B/16/320.58, p. 31.

63 Laban: *Choreutics*, p. 6.

Correspondingly, industrial choreography expanded from its performance by (non-)human bodies towards a generalised vision of a labouring world in motion. In this framework, rhythmic-kinetic aspects were identified in acts not involving visible motion – be they administrative tasks, or wider industrial and commercial (trans)actions. For example, Laban argued that with his notation 'it is possible to demonstrate and eventually to regulate not only the rhythm of personal performances but also that of the flow of material and even of administrative concern'.[64] He noted that 'man is embarking now into a venture which seems to surpass any human capacity. It is [in] this [sic] the regulation or better rhythmisation of international trade and economics', that one could identify 'the still more complex rhythms of trade and economics in their regional, national and finally international relationships'.[65] Similar to how individual (non-)human units of a factory must be considered part of the interconnected choreography to which they collectively contribute, multiple factories, enterprises, and productive activities may be considered actants of a global expanded choreography – as phenomena to be understood choreographically, as parts of a world in flux.

If choreography is attached to bodies in (loco)motion, Laban's reflections on industrial equipment and products trouble this conception by minimising movement imposed on human bodies. But, while Laban described a dichotomy of a moving human corporeality trapped into motionlessness by inorganic products, his work also recognised motions and non-motions shared by both. By identifying the kinetic relevance of seemingly-still human beings – through the notion of shadow movements – as well as the objects, materials, factories, and the wider agglomerations they belong to, Laban posited both a choreography of moving human bodies and an expanded choreography envisioning the (still) world in kinetic flow. In this way, he disengaged choreography from the human mover (challenging the 20th century's "bind" of motion to corporeality[66]), undid a clear dichotomy between motion and motionlessness (detaching his practice from a conception of choreography predicated on motion as opposed to immobility), and complexified the ways 20th century's attachment to motion can be understood. In doing so, the industrial Laban participates in a historical range of choreographic practices – pre- and post-20th century – that upset

64 Laban, Rudolf: The Revival of Rhythm, undated, Rudolf Laban Archive, © University of Surrey, L/E/57/4, p. 41.

65 Laban, Rudolf: Rhythm in International Trade and Economics, undated, Rudolf Laban Archive, © University of Surrey, L/E/77/33, unpaginated [handwritten notes, attributed to Laban by handwriting comparison and the archive catalogue].

66 On the notion of "bind" see Cvejić, Bojana: *Choreographing Problems: Expressive Concepts in European Contemporary Dance and Performance*, Basingstoke: Palgrave Macmillan 2015.

the motion/stillness dichotomy. In Laban's case, this upsetting did not operate through containment (like Domenico's *fantasmata* [Chapter 3]) or virtual potential (like Forsythe's willows [Chapter 6]), positing human motion as a reflection of cosmic harmonies, or developing unpredictable ecologies. Instead, it was the determinism of trace, the teleology of proclivity, and a universalism of motion that reconfigured a wider problematic for early-20th-century modernity.

Managing movement

Several ideas present in the industrial Laban sources indicate a deontological, non-exploitative approach in his management of work. The regulation of industrial processes was portrayed as beneficial to the human community:

> To become aware of the dance of material is also to become more clearly aware of the dance of man in his work and his whole life, and the speeding up and regulation of production should achieve the adaptation of the dance of material to the dance of life – benefitting [sic] the worker as well as the consumer and avoiding many of the disturbances of an industrial civilization.[67]

Moreover, Laban and Lawrence were critical of the profit-seeking labour management of the Fordist tradition;[68] they were opposed to the injunction to work at the highest speed possible. For example, they diagnosed Mars Bars as 'suffer[ing] from an over-estimation of time-efficiency and an under-estimation of effort-efficiency'.[69] The multi-faceted conception of work effort implies that different types of jobs require different approaches to, and combinations of, Weight, Space, Time, and Flow. This analysis of effort allowed Laban and Lawrence to remain within the Taylorist logic of efficiency and productivity –

67 Laban, Rudolf: The Revival of Rhythm, undated, Rudolf Laban Archive, © University of Surrey, L/E/57/4, p. 40.

68 For example, Laban writes: 'all the other factors of usefulness, profit, expansion etc are subordinated to the best form of rhythmical functioning'. Laban, Rudolf: Introduction, undated, Rudolf Laban Archive, © University of Surrey, L/E/77/4, unpaginated [handwritten notes, attributed to Laban by handwriting comparison and the archive catalogue].

69 Anonymous: Concerns our Offer to Mars-Bar Limited, 1942, Special Collections, Leeds University Library, BC MS 20c Theatre/Hodgson/1/1/151, https://explore.library.leeds.ac.uk/special-collections-explore/419984, p. 1. Laban also writes: '[t]he perfect performance, and therefore the quality and quantity of output, does not depend on mechanical speed only, but rather on the rhythm in which effort and relaxation as well as speed and thoroughness are compounded': Laban, Rudolf: Report on the Introduction of Laban Lawrence Industrial Rhythm to Dartington Hall Trustees, Dartington Hall Ltd., Totnes South Devon [extract], undated, Special Collections, Leeds University Library BC MS 20c Theatre/Hodgson/1/1/132, https://explore.library.leeds.ac.uk/special-collections-explore/419965, p. 12.

wherein inappropriate effort was considered wasteful, and skill was considered "economical" effort[70] – while simultaneously rebutting speed-based industrial motion management as simplistic. Based on effort theory's highly-subjective, qualitative approach to movement as an indicator of the person's profile and skills, Laban and Lawrence also assumed an individualised approach in selection and training. Job effort graphs were matched with workers' effort graphs, including "mental" effort graphs that depicted psychological aptitudes; training was used to augment latent but necessary capacities.[71] If movement qualities are related to inner impulses, then being the right person – or being trained to express one's potential – in the right job is the only way to do the job well. The correspondence between personality traits and movement qualities guaranteed job enjoyment; for Laban and Lawrence, 'keep[ing] the inapt person on the wrong job is less an educative measure than the expression of ignorance and sometimes perhaps of sadism'.[72] As Romana Schmalisch, a contemporary artist who has conducted artistic research on the industrial Laban, succinctly puts it: '[t]hrough efficient and collective efforts, labour for Laban assumes an aesthetic value, bringing pleasure to the workers'.[73] A hint of Taylor's equating of prosperity with optimal efficiency is discernible in Laban and Lawrence's approach to labour: 'REMEMBER – the particular aim of the Laban-Lawrence Training is to make efficiency a pleasure'.[74]

---

70 Laban & Lawrence: *Effort*, pp. 8, 14.

71 Laban, Rudolf?: The Job Effort Graph and its Application, undated, Rudolf Laban Archive, © University of Surrey, L/E/62/27 [Laban's name is written in pencil on the first page of the typescript]. The essential veracity of movement analysis was argued to be a way of confronting selector bias in recruitment. For instance, Laban-Lawrence "control sheets" were given to training supervisors in order to 'arrive at conclusions without the danger of psycho-moralistic of other prejudices'. Laban Lawrence Industrial Rhythm: Laban Lawrence Effort-Value Control Sheets, 1942, Special Collections, Leeds University Library, BC MS 20c Theatre/Hodgson/1/1/132, https://explore.library.leeds.ac.uk/special-collections-explore/419965, p. 2.

72 Laban Lawrence Industrial Rhythm: Laban Lawrence Effort-Value Control Sheets, 1942, Special Collections, Leeds University Library, BC MS 20c Theatre/Hodgson/1/1/132, https://explore.library.leeds.ac.uk/special-collections-explore/419965, p. 2.

73 Schmalisch, Romana: The Choreography of Labour, in: *Notes sur les mouvements* 1, Aubervilliers: Les Laboratoires d'Aubervilliers 2013, p. 4.

74 Taylor, Frederick Winslow: *The Principles of Scientific Management*, New York/London: Harper & Brothers 1919, p. 11; Laban-Lawrence Industrial Rhythm: Laban Lawrence Training Manual, undated, Special Collections, Leeds University Library, BC MS 20c Theatre/Hodgson/1/1/132, https://explore.library.leeds.ac.uk/special-collections-explore/419965, p. 5. Certain workers were reported to have expressed their own interest in training: Laban Lawrence Industrial Rhythm: Laban-Lawrence Observations and Training, 1942, Special Collections, Leeds University Library, BC MS 20c Theatre/Hodgson/1/1/132, https://explore.library.leeds.ac.uk/special-collections-explore/419965, p. 4.

But, important ethical questions emerge in Laban and Lawrence's approach to industrial choreography, most notably concerning the need to train workers in order to achieve efficiency and pleasure. This is echoed in both Laban's earlier activities – which aimed to 'enlighten the guilds, from the masters down to the apprentices about their own traditions […] to awaken in working people a feeling for their work rhythm'[75] – and in Taylor's belief that the "scientific manager" knows how to do a task better than the worker performing it.[76] While Laban and Lawrence urged trainers to adopt the working person's viewpoint of tasks,[77] the very concept of training meant that workers had to *learn* how to optimally perform movements, balance effort factors, and avoid spending energy purposelessly so they could enjoy their work. Laban and Lawrence admitted there was some individual trial-and-error learning, but they argued these natural capacities should be combined with guidance by an observer-trainer.[78] Similarly – while it was assumed that workers could understand effort notions by an 'awakening of the understanding'[79] – the movement analysis terms were defined by the consulting team, and the exercises integrated pre-defined knowledge, not open movement possibilities. The Laban-Lawrence training method did transfer responsibility to trainers, after a consultation period; again, however, these trainers were given detailed instructions to perform their role in a way that was scripted by the consulting team.[80] The partial removal of the worker's agency within the work ethic of pleasure may not have been Laban's intention; but, his ideal of an optimal, enjoyable mode of labour was shadowed by an external observer who imposed their vision of the enjoyable and the efficient – potentially dispossessing the worker of a personal grasp of their labour.

The worker, between guided and pleasurable motions, tunes into more than just the job's optimal effort arrangement. While the individual worker was an important part of expanded industrial choreographies, their personal action options were limited to those that did not interfere with overall functioning of a supra-individual choreography: '[d]eviations of single persons from the flow

75 Laban: *A Life for Dance*, p. 143.

76 Taylor writes: 'in almost all of the mechanic arts the science which underlies each workman's act is so great and amounts to so much that the workman who is best suited actually to do the work is incapable (either through lack of education or through insufficient mental capacity) of understanding this science'. Taylor: *The Principles of Scientific Management*, p. 41.

77 Laban & Lawrence: *Effort*, p. 53.

78 Ibid., pp. 14, 25.

79 Ibid., p. 14.

80 See, for example, Laban-Lawrence Industrial Rhythm: Laban Lawrence Training Manual, undated, Special Collections, Leeds University Library, BC MS 20c Theatre/Hodgson/1/1/132, https://explore.library.leeds.ac.uk/special-collections-explore/419965.

of work cause disturbances in the flow of material. […] individual movements may develop freely within certain well definable margins'.[81] The factory is thus presented as an organism in which individual actants should function in a cell-like contribution to the whole:

> To make all the individual cells of an industrial organism aware of the way which leads from the single intention to the precision of the whole. To convey to everybody working within an industrial organism the experience of wellbeing which accompanies personal and common rhythmical function.[82]

This tuning-in concerns collectives of human workers, and requires that each worker combine their movement to the hybrid, collective, expanded choreography of the entire factory; worker movements are interrelated with those of machines and tools.

Rhythm is one of the ways to achieve this synergy; rhythmic sense is relevant 'far beyond the assessment of the operation of a single workman to the flow of work within a whole department or factory or chain of factories'.[83] Laban argued that '[a]s any production consists of a chain or series of individual actions, the greater rhythm within a department or even a whole factory can be assessed', both as the sum of individual acts and 'as the rhythm of the material flow of a product or of other details of the work'.[84] Correspondingly, 'an entirely new rhythm appears, which demands new efforts and a more complex planning. The various gang rhythms must be co-ordinated together with that of the machines between them'.[85]

Rhythm – as a means of ordering the expanded choreography of the factory – is accompanied by the notion of harmony, often also mentioned in Laban's

81 Paton Lawrence & Company: First Investigation into the Flow of Dock Work, 1946, Rudolf Laban Archive, © University of Surrey, L/E/73/14, p. i.

82 Laban, Rudolf: The Idea of Industrial Rhythm, undated, Rudolf Laban Archive, © University of Surrey, L/E/77/5, unpaginated [handwritten notes, attributed to Laban by handwriting comparison and the archive catalogue].

83 Laban, Rudolf: The Revival of Rhythm, undated, Rudolf Laban Archive, © University of Surrey, L/E/57/4, pp. 41–42.

84 Laban, Rudolf: The Observation of Rhythm in Work, undated, Rudolf Laban Archive, © University of Surrey, L/E/40/21, p. 12 [attributed to Laban by handwriting comparison and the archive catalogue].

85 Laban, Rudolf [& Lawrence, Frederick Charles?]: The Planning of Collective Effort, undated (part of typescript report entitled 'Synopsis of a lecture by Rudolf Laban and F.C. Lawrence, at the Manchester Association of Engineers': 'Motion and Movement in Modern Engineering Practice', 3 June 1946), Trinity Laban Conservatoire of Music and Dance, Faculty of Dance, Laban Archive, LC/B/16/320.58, p. 17 [document not signed but attached to a 1946 lecture by Laban and Lawrence. Page numbers are not regular].

dance-related writings. The efforts, rhythms, and movements of humans, machines, and administration must be regulated by harmonious relationships; this was once again Laban's pre-requisite for optimal, productive, and enjoyable work:

> [T]o be satisfying and to give satisfaction, every movement, whether of people, machinery or moving objects must be rhythmical […] in relation to preceding and succeeding movements and when other people, machinery or objects are involved, in relation to their movements. Everything must be so timed, spaced and emphasised as to create one harmonious whole.[86]

An ideal Labanian factory did not allow a disorderly, disorganised choreography; it was based on a harmonious one. Moreover, despite the fact that individual actants were attributed agency and initiative, it was a tightly-controlled harmony that emerged from their actions. A common rhythm was to be set by a decision-maker other than the working agents – indeed, the notion of harmony implies the existence of an observer and an external gaze, whose position allows perception and projection of harmony. Laban maintained that individual human beings were capable of awareness of, and agency within, their working group:

> The cells of the body of a murderer will remain unconscious of the crimes of their master. And I do not think that the cells of a holy man are all aware of the enhanced moral tendencies of the individual of whom they are parts […] But human individuals have, as we hope […] more responsibility towards the behaviour of the collective organism to which they belong.[87]

But, he also stressed a hierarchical figure's role in facilitating such awareness: '[t]he leaders of collective organisms are bound to train individuals for communal purposes. The individual has the tendency to revolt against such training if he does not understand or appreciate the collective purpose'.[88]As important as individual efforts and rhythms may be, the factory's expanded choreography also included figures of choreographic industrial authority. In most cases, these figures were the founders/owners, managers, and other executives of industrial plants, portrayed as the sources of the factory's choreography: '[t]he mental rhythms and efforts displayed by [the executive] are the *initiators* of the flow of

86 Anonymous: Excerpts from the Report of a Meeting between Mr. Laban and the Heads of a Large Company, in: *The Laban Art of Movement Guild News Sheet* 1 (1948), p. 12.

87 Laban, Rudolf: The Industrial Organism, undated, Rudolf Laban Archive, © University of Surrey, L/E/65/14, pp. 5, 7 [attributed to Laban by the archive catalogue; the document is a typescript followed by handwritten pages; handwriting comparison also points to Laban as its author].

88 Laban, Rudolf: The Industrial Organism, undated, Rudolf Laban Archive, © University of Surrey, L/E/65/14, p. 4.

material'.[89] The manager had to 'listen and to respond actively to the language of evolution and growth manifesting itself in the tender buds of his plant and serve it cunningly rather than using brutal and mechanical will power'.[90] At the same time, the manager regulated and controlled other workers' work; being 'aware of the rhythm and acquiring the faculty to observe, to *regulate* it with increasing efficiency is [many managers'] main task'.[91] Laban noted that 'any labour management is in itself a rhythmical organisation of the manifold working processes'.[92] In other words, the manager had to be benevolent – indeed, the orchestral understanding of collective rhythm suggests that Laban and Lawrence did not propose a complete, disciplinary homogenisation of individual rhythms – but their position also centralised the industrial regulation, rendering the factory a supra-subjective entity. The hierarchy of this "regulatory" process is visualised in a graph for tea manufacturers J. Lyons & Company Ltd. [Figure 30]; the administration was on top and in charge of planning and selection, while the workers received foremen and trainers' input.

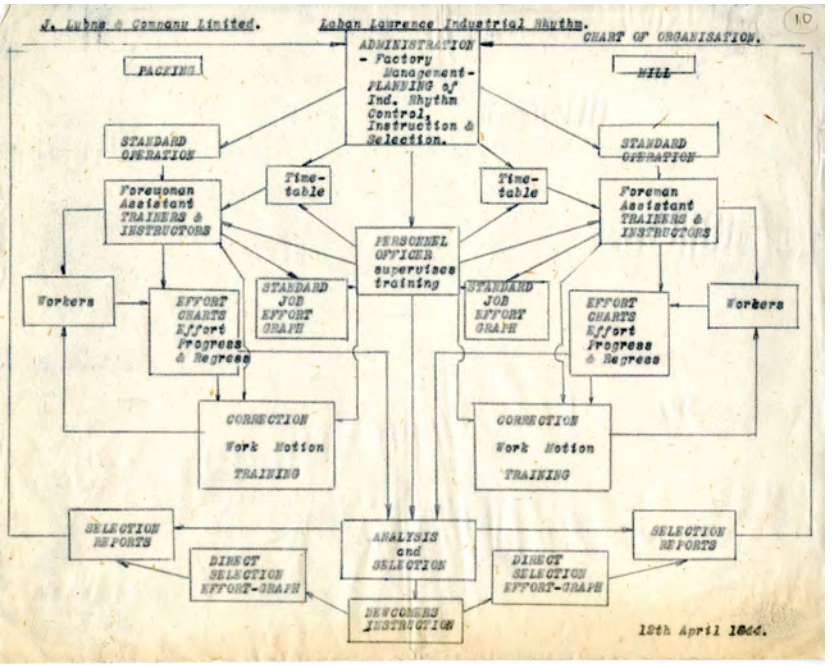
89 Laban, Rudolf: Untitled notes, undated, Rudolf Laban Archive, © University of Surrey, L/E/73/12, p. 1, emphasis added [handwritten notes, attributed to Laban by handwriting comparison and the archive catalogue].

90 Laban, Rudolf: The Industrial Organism, undated, Rudolf Laban Archive, © University of Surrey, L/E/65/14, p. 2.

91 Laban, Rudolf: Untitled notes, undated, Rudolf Laban Archive, © University of Surrey, L/E/77/34, p b2, emphasis added.

92 Laban, Rudolf: Introduction, undated, Rudolf Laban Archive, © University of Surrey, L/E/77/4, unpaginated.

Figure 30: Industrial Rhythm chart by Rudolf Laban, 1944 (L/E/72/6). From the Rudolf Laban Archive, University of Surrey, © University of Surrey. No re-use without permission.



The expanded choreography of the factory was therefore based on a hierarchy in which the manager-choreographer was not an instigator of purposefully-unknown potential, but, rather, a director of action. Nevertheless, cracks appear in this choreographic ideology. For Laban, 'the main preoccupation of many managers is to deal with [materials' and fabrications'] rhythm, *even if they do not recognise it always as the fundamental factor of production*. [...] to regulate [the rhythm] with increasing efficiency is their main task'.[93] This quotation confirms the manager's hierarchical superiority in the industrial choreography, while also expressing their limited knowledge about their task. Indeed, the external observer/consultant/choreographer could direct the manager, by identifying and/or projecting a harmonious, optimal choreographic functioning. The founder/manager was presented as the 'germ-cell' of the industrial organism,

93 Laban, Rudolf: Untitled notes, undated, Rudolf Laban Archive, © University of Surrey, L/E/77/34, p. b2, emphasis added.

a 'storehouse of possibilities' – but not its 'creator'.[94] In effect, the germ-cell manager was also part of the industrial organism, subject to an (external) gaze; thus, the dispossession of one's work inherent in consulting concerned more than just the manual workers. Laban and Lawrence identified managers in need of guidance themselves, who were otherwise hindering the industrial organisms for which they were responsible. For instance, in *Effort*, the authors recount a case of a problematic working atmosphere in which '[t]he only obstacle to a complete cure was the manager, who was himself [...] not able to think in terms of effort and was strongly opposed to a systematic effort training. His conversion would have required the training of himself.'[95] Perhaps unwittingly, Laban and Lawrence's approach meant human hierarchical superiors were also subjected to choreographic order.

This choreographic order may even exceed the grasp of the consulting choreographer:

> Like any other growth which we encounter on our earth [industrial organisms] should be looked upon as the inescapable result of the evolution of material energies and not as wanton creations of individuals or even of communities. There is no mind or consciousness that could plan or invent those intricate patterns of thousands and thousands of co-ordinated factors and facts which constitute the life stream of industrial organisation. The amount of the hitherto hardly recognised and therefore unexpected complications which arise day by day in any industrial organism and in the co-operation of the total sum of them surpasses any human phantasy.[96]

In other words, the expansion of choreography beyond individual human bodies and towards the supra-individual scale of the factory introduced a margin in which choreographic control was lost, wherein the performers of the expanded industrial choreography acquired a (de-individuated) agency. Laban alluded to this possibility when he wrote that the resulting "growth" of industrial organisms would be different from the pre-conceived vision of them;[97] the organically-construed choreography of the factory could have escaped the manager or even the consultant.

---

94 Laban, Rudolf: The Industrial Organism, undated, Rudolf Laban Archive, © University of Surrey, L/E/65/14, p. 2.

95 Laban & Lawrence: *Effort*, p. 85.

96 Laban, Rudolf: The Industrial Organism, undated, Rudolf Laban Archive, © University of Surrey, L/E/65/14, p. 1.

97 Laban, Rudolf: The Industrial Organism, undated, Rudolf Laban Archive, © University of Surrey, L/E/65/14, p. 1.

In Laban's expanded industrial choreography, the dancing labourer – or labouring dancer – is meant to achieve motional harmony, economy, and pleasure. And since this choreography also includes dancing tools and machines – or mechanical and inorganic dancers – they, too, are part of the motional harmony and rhythm; they are meant to perform a well-oiled, smooth choreography along with their human counterparts. To achieve this harmonious, pleasurable performance of work, the labourers' individual agency is active; but, their dispersed choreographic initiatives are counterbalanced through top-down – albeit benevolent – guidance and direction from a manager or consultant. The ethics and politics of Laban's industrial choreographies cannot be summarised as a threat of mechanisation upon humanity, or motionlessness upon a fundamental tendency towards (loco)motion. Instead, they concern how hybrid, rhythmically moving-and-pausing entities function between individual initiative and centralised management. Just as Laban's industrial work both underscores and subverts dichotomies between the human and the non-human, the ethics of his expanded choreography, partly dispossessing individual workers of their work in favour of a harmonious choreographic totality, is itself partially subverted by the ghost of a swarming industrial organism, whose cells cannot be fully controlled.

The industrial Laban saw – like Guglielmo and his Renaissance colleagues [Chapter 3] – human (labour) motion as belonging to a wide-reaching realm. He envisioned – like Forsythe's ecology in Groningen [Chapter 6] – the factory as a supra-individual, more-than-human choreography. But contrary to Domenico and Guglielmo's integration of the concept of nature and Forsythe's distributed collection of (non-)human agents, the source, author, and control of Laban's expanded choreography is a centralised – albeit fallible and potentially failing – hierarchical (hu)man figure. In this sense, Laban's expanded choreography of the factory completes the Renaissance's oscillation towards a human choreographic author(ity) while manifesting modernity's failure to fully attach itself to that model, losing ground to unpredictable systemic potentials that contemporaneity has accepted and, at times, celebrated.

Conclusion

An expanded choreographic perspective on the industrial Laban focusses on the motional activity and possible agency of non-human entities, while also concentrating on the human mover, their intentions, interiority, and expression. By deviating from the human focus of his notation with signs for tools and equipment, viewing effort as relevant to analysis of machine motions, and observing the interactions between human and non-human labourers in order

to adapt them to one another, Rudolf Laban appears less dichotomous than some of his own writings suggest. This expanded choreographic perspective may move focus away from human specificity, but it does not efface the centrality that the human body had for Laban. Similarly, the expansion of his choreography (and choreo-graphy) to the non-human coexists with a choreography of human subjects.

An expanded choreographic perspective on the industrial Laban also identifies – in the midst of the 20th-century's entanglement of choreography, subject, body, and movement – motions that were not limited to the displacement of human bodies in space and time. Industrial choreographies collectively encompassed (non-)human agents implicated in rhythmical production processes, micro-motions of body parts, traces of motional patterns in exhausted workers, vestiges of movements implicated in production, and material proclivities in objects. Once again, this expanded perspective does not negate Laban's interest in human (loco)motion, but allows it to co-develop with a kinetic perspective on entities such as factories and products. Correspondingly, the expansion of choreography beyond human (loco)motion and towards a choreographic vision of a world in flux complements and juxtaposes itself with a choreography of moving (human) bodies.

As Laban's industrial choreographies were both human-centred *and* not human-centred, their ethics concerned both human labourers and the tools, machines, and other equipment that assisted and permitted their work. And, as Laban's industrial choreographies were both locomotion-oriented *and* not locomotion-oriented, their ethics were found in the effective motions of their performers and in the management of their collective, at times pausing, rhythms. Regulated by harmonious relationships, this choreography of work suggests that expanded choreographies implicate relations of power, authority, hierarchies, and negotiations about agency and individual freedoms, just like dance-based ones. In the case of Laban's factories, these negotiations may have favoured a harmonious whole and a knowledgeable external guide or leader, but also introduced cracks through which collective, supra-individual choreographies escaped full external control. If expanded choreography acts as a reminder of the multiplicity of Laban's industrial choreographies, it also acts as a reminder that an ethical assessment of his choreography of work at the scale of the moving human person is incomplete; there are ethical issues that can only be addressed if the ethics of an expanded choreography are recognised.

Like *Relâche* [Chapter 7], Laban's work in industry paints a portrait of modernity that oscillates away from its own choreographic models. Thus, it affirms the centrality of humanity and motion while undoing their dichotomous conception against the non-human and the still; practices a politics of control enmeshed with an aesthetics of harmony, while recognising the limits of control; cen-

tralises choreographic authorship to a human agent, while postulating that this agent may be surpassed by large-scale, agglomerate structures. An expanded choreographic perspective considers Laban's industrial work in its very contradictions and diverse directions, pointing to the need for historiography to accept deviations, paradoxes, differences. In the horizontal axis of synchronicity,[98] this reading of the industrial Laban requires acknowledging choreographic diversity, while the vertical axis of transhistoricity demands taking into account his relevance both for an expanded choreography of contemporaneity and for those pre-20th-century pasts to which this contemporaneity branches out. Laban's particular – harmonious, teleological, universalist, hierarchical – performance of choreographic expansion may distance him from Guglielmo and Domenico's Renaissance [Chapter 3] or Forsythe's present [Chapter 6]. But, it is also a sign of the diverse configurations in which early modernity, 20th-century (hyper-)modernity, and contemporaneity each probed the limits of a choreographic attachment to a motion-driven human subject; and allowed – as animist figures, in Elizabeth Povinelli's sense of the term[99] – choreography to spill out of that subject and into the posited aliveness of a more-than-human world.

98 Cf. Foster, Hal: *The Return of the Real: The Avant-Garde at the End of the Century*. Cambridge/London: MIT Press 1996, pp. xi-xii.

99 Povinelli, Elizabeth A.: *Geontologies: A Requiem to Late Liberalism*, Durham & London: Duke University Press 2016, p. 17f.