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# “The Man with Three Feet” in Pieter Bruegel the Elder’s *Peasant Wedding*

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## Résumé

Lorsque Bruegel a peint *Le Repas de Noces Paysannes*, il a conçu le groupe des trois serveurs au premier plan de telle façon qu'une illusion visuelle d'un homme doté de trois pieds a été créée, une anomalie qui a causé la confusion autant pour les copistes que pour les chercheurs. Nous présentons ici une explication de ce problème,

que nous appuyons par des photographies d'un tableau vivant de l'action présentée et d'une simulation numérique. L'ambiguïté de l'image crée une illusion Poggendorf qui éveille l'attention du spectateur et provoque un stimuli quant à la perception du mouvement dans cette oeuvre.

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“Bruegel depicted many things that cannot be depicted” wrote the sixteenth-century geographer Abraham Ortelius in the epitaph for his painter-friend.<sup>1</sup> A painted image cannot move; painters have compensated for the lack of a temporal quality in their static medium with a vocabulary of conventions.<sup>2</sup> The frozen flutter of drapery that denotes wind or speed, the arrested figure that denotes action and effort, the symbolic wings and wheels that by association define the agency of time, or the rhythmic repetition of a motif that denotes the visual path – such are the codified images that the painter presents and that the beholder recognizes. Yet the works of Pieter Bruegel the Elder (ca. 1525–1569) sidestep this symbolic mode and instead seduce the viewer’s subliminal sense of movement. He does not paint a sign for the unpaintable: he visually explores the sensations of falling, turning and dancing.

The urge to convey a sense of movement lies behind much of Bruegel’s work. For example, the jigging dancers in the *Wedding Dance* (Detroit, Institute of Arts) are caught in mid-step, their weight in transition (fig. 1). Bruegel’s quick-shutter eye captures a moment in the flux of real motion. These configurations on the panel are tantalizing: “things that cannot be depicted.” It is this evocative quality which gives Bruegel’s paintings their much celebrated “liveliness.” The modern study of visual perception and kinaesthetics gives us an insight into the movement content in Bruegel’s paintings.

It will be asserted that the *Peasant Wedding* (Vienna, Kunsthistorisches Museum), painted about 1567-68, does not follow the conventions of symbolic action (fig. 2).<sup>3</sup> Most often an observer will have a learned mental response to a symbolic static pose in a painting, as opposed to an unconscious physical response to a movement that occurs in real time and space. But in Bruegel’s paintings visual ambiguities present real stimuli that evoke kinaesthesia in the beholder. Our perception of movement in the painting elicits our sense and memory of movement in the real world. Despite the hermetic meanings and self-conscious style of four hundred years ago, we may still obtain information and pleasure from the visual stimuli that are so rich in Bruegel’s work.

In particular, the *Peasant Wedding* contains a much discussed visual riddle. In the right foreground of the picture a

group of three figures are serving bowls of pudding to the guests seated at a long table (fig. 3). Two servants are carrying the pudding tray and a third man is passing the bowls from the tray to the table. The tray, laden with pudding bowls, is a large hinged shutter or door, possibly part of the barn that has been taken down for the occasion. The long-standing visual problem exists in the arrangement of these three servants and the four feet that appear below the edge of the pudding tray. Axel Romdahl was the first writer to point out that the figure on the right with a spoon in his hat and carrying the tray of puddings behind him appears to have three feet.<sup>4</sup> Romdahl described the figure as pausing in mid-stride with an extra foot between his legs, but he could not explain the inclusion of the extra foot.

Once Romdahl had identified the problem of “the man with three feet,” other writers took up the challenge and tried to justify the presence of the extra foot. Ludwig von Baldass noted Romdahl’s observation and wrote that the tray-carrier’s extra foot was a foot “belonging to no one.”<sup>5</sup> He suggested that the painter had included it to fill a blank space in the composition. The extra foot does have a legitimate place in the rhythmic pattern of feet that proceed from left to right across the foreground of the picture, but Baldass’s interpretation is inadequate both anatomically and aesthetically.

Subsequently, Gustav Stridbeck further defended the notion that Bruegel deliberately included the spare foot as a space-filler.<sup>6</sup> Stridbeck’s interpretation goes further than this, however, in suggesting that Bruegel has made an attempt at animation by representing the tray-carrier’s left foot in two different positions.<sup>7</sup> According to Stridbeck the figure can be seen as simultaneously stepping forward and suddenly stopping. With a little imagination we can first focus our attention on a striding pose for the tray-carrier, his feet wide apart and his body leaning forward with dynamic purpose. In order to see the figure in this way we must ignore the superfluous foot between his legs. We can then shift our attention to a halted pose for this same tray-carrier, as Stridbeck suggests. In this aspect the figure’s feet are quite close together, his knees bent to brace himself as he seems to totter backwards a little, as though caught by the momentum of his forward movement. In this instance we must ignore the foot further behind him which we formerly accepted as his left

Figure 1. Pieter Bruegel the Elder, *Wedding Dance*, 1566. Oil on panel, 119 x 157 cm. Detroit, Institute of Arts (Photo: Detroit Institute of Arts, Detroit).



foot in the striding position. We can shift quite rapidly from one pose to the other at will, as in the well-known "rabbit-duck" illusion, creating a sort of flicker-book cartoon animation. Indeed, "the man with three feet" is literally "ambiguous:" from "ambi" meaning "both" and "agere," "to move," that is "moving both ways." Stridbeck's animation theory is interesting, but it is unsupported by Bruegel's other works and the conventions of that period.

In this century the considerable popularity of the original painting of the *Peasant Wedding* (witness the number of reproductions on greetings cards, posters, place mats and even needlework designs) has possibly been enhanced by the story of "the man with three feet." Visitors to the Kunsthistorisches Museum in Vienna laugh when the tour guides point out Bruegel's "mistake," and the humourist Alan Coren, writing in the popular English magazine *Punch*, has poked fun at the painter's supposedly drunken carelessness.<sup>8</sup>

It is a popular misconception that the painter experimented with two possible arrangements of the tray-carrier's feet and then forgot to paint out the superfluous foot. In the context of the finished nature of the painting and Bruegel's attention to detail, this is unlikely. However, the possibility that the motif of "the man with three feet" was meant to be humorous must be seriously considered.

In his collected biographies of Flemish painters, *Het Schilder-Boek*, published in 1604, Carel van Mander states that "the solemn viewer cannot resist laughing when confronted with any one of the works of Pieter Bruegel the Elder, as severe, grumpy or dignified as an observer might be, he must at least stop frowning or smile," and Van Mander also relates that the master was fond of joking in society and playing tricks on his pupils.<sup>9</sup>

Yet, what is funny about a man with three feet? Possibly we are dealing here with a case of identification: that is, we recognize the resemblance between the three-footed man and our-

Figure 2. Pieter Bruegel the Elder, *Peasant Wedding*, ca. 1568. Oil on panel, 114 x 163 cm. Vienna, Kunsthistorisches Museum (Photo: Kunsthistorisches Museum, Vienna).



selves, but we are frustrated in our expectation of his having two feet as we do. We choose to reject him and to see him as anomalous, which elicits a sense of relief in us. We reinforce our own identities and overcome our anxiety about the rightness of our own anatomy by denying the previously welcomed resemblance. The joke of three-leggedness is recurrent in much popular culture, as evidenced by three-legged races, and in caricature. This distortion of the human form is found to be comic by an egotistical mechanism that cruelly protects the self and mocks another's misfortune. This is the classic banana-peel joke that signifies "I'm alright, but he's not," as in Freud's "Schadenfreude."<sup>10</sup>

However, the inclusion of a man with three feet in Bruegel's painting provides more than an easy laugh or gratuitous freak show. A close look at the visual evidence provided by the painting and an analysis of the picture's composition will reveal that "the man with three feet" is neither a mistake on Bruegel's part nor only a simple joke. Rather, it is a skillful conceit, an optical illusion. The enigma of "the man with three feet" contributes to the whole work in a variety of ways: to its

humour, to its technical virtuosity and to its expressive representation of movement.

The viewer's experience of the painting entails a number of perceptual difficulties. There is a problem of spatial inversion in the picture's composition: there is a dramatic difference in scale between the many small figures in the background and the anonymous yet dominant figures in the foreground. "The man with three feet" plays a seemingly minor role as a servant at the *Peasant Wedding*, but his large bulky presence in the foreground gives him an enhanced visual significance. We find the tiny bride, the significant subject, in the background of the picture, rather than in the foreground as would be expected. This unconventional inversion of the foreground and background spaces is a device also used by a contemporary of Bruegel, Pieter Aertsen.<sup>11</sup> Even so, the bride is easily recognized amid the guests despite her small size and her placement at the far side of the large table: she is the plump round-faced woman, her eyes lowered and her hands folded, wearing the traditional Flemish wedding dress (dark in colour with red and green trim) with the ceremonial backcloth hung behind her against the neatly stacked

Figure 3. Pieter Bruegel the Elder, *Peasant Wedding*. Detail of the foreground figure-group (Photo: Kunsthistorisches Museum, Vienna).



grain.<sup>12</sup> Although the bride is not placed prominently in the picture, the viewer's attention is, none the less, drawn to her by the arrangement of the foreground group of servants. The viewer's eye scans the panel from the bottom right-hand corner, passes over the tray of puddings between the bulky figures in the foreground and along the outstretched and dramatically foreshortened arm of the man passing the pudding bowls, to focus on the figure of the bride.

In addition to the inversion of foreground and background in terms of subject, the depicted space in the painting presents a problem in the visual perception of depth. The composition of the painting does not present a single unified space; rather, at least two distinct spatial constructions exist in the picture. The background space is determined by the vertical stack of hay or wheat and by the visible architectural elements, such as the rafters in the roof and the orthogonals generated by the tables and benches. The vanishing point of the background construc-

tion is found far to the left at some distance outside the picture frame. The plane of this background space is not parallel to the picture plane but at an extreme angle to it. Most probably the spectator will be standing squarely in front of the panel or possibly approaching the painting from the left, which is quite likely when following the sequence of the fifteen Bruegel paintings as they are hung in one room of the Kunsthistorisches Museum in Vienna. In either case the viewer is forced by the dominant perspective system of the background space to enter the pictorial space visually at an oblique angle. The extremity of this angle presupposes a point of view from the far right of the panel. This, combined with the large size of the work, inclines the spectator to move across the space from left to right. Only at the extreme right can viewers reassert a parallel orientation between themselves and the picture plane. In addition, the floor of the barn in the painting is not perpendicular to the plane of the picture, or to the viewer. The whole scene is tipped up

towards the observer so that the interior of the barn is viewed from above. This background space has a horizon line passing through the eye of the man pressed against the barn door at the most extreme left edge of the picture, through the tip of the feather in the hat of the piper who is turned away from us, and through the newlywed's bridal crowns pinned to the ceremonial cloth behind the bride (fig. 2).

Within the space of the barn interior, the secondary space of the foreground is defined by the pudding tray and a stool in the bottom right-hand corner of the picture. Although this stool appears to be square, within the perspective construction created by the tray, it is actually a three-legged stool. The large pudding tray has some ambiguities in its construction, but we can clearly determine its vanishing lines. We find that the plane of the foreground space is not parallel to the background plane but forms its own angle to the picture plane, at a different and less acute angle than does the background plane. This foreground perspective has a vanishing point that falls on the wrist of the bagpiper nearest to us. Interestingly, the two conflicting spaces of background and foreground meet at this "joining-point" in the bagpiper's wrist.<sup>13</sup> This foreground space is contained by and conflicts with the background space in the horizontal dimension. Additionally, the foreground is tipped up even further towards the viewer in the vertical.

The contrast between the two perspective systems in the painting creates an element of parallax for the viewer. Having approached the painting from the left and moved across the width of the panel, we have followed the path that is visually suggested by both the sequence of black feet, proceeding from left to right across the lower part of the picture and from the furthest point at the rear of the barn to the furthest forward point of the table. This culminates in an uncomfortably close confrontation with the looming servants and the complex arrangement of feet beneath the pudding tray. An active viewer, crossing in front of the panel, experiences the whole space of the barn interior as a revolving sphere that gradually turns and advances towards us on a progressively tipping axis as we approach, affording us an increasingly close-up view as we "zoom in" on the foreground group of servants and the pudding tray. The perspectives of the large table in the background and the tray in the foreground are colliding wedges within the interlocking spaces.<sup>14</sup>

The visual gap between the foreground and background spaces is bridged at two points. The first is the pair of bagpipers, who are intermediate in pictorial size between the background seated figures and the foreground standing figures. The disjuncture of foreground and background spaces is also connected to the problem of "the man with three feet." The viewer's perception of a coherent illusion of depth in the depicted space is further contradicted by the repetitive pattern of feet across the

lower half of the painting, an effect that emphasizes the surface design of the picture. This assertion of the picture surface despite the illusions of pictorial depth also has a bearing on "the man with three feet."

Further examination of the *Peasant Wedding* helps to identify certain significant features of the figure composition in the foreground of the painting. It is clear that the leading tray-carrier's right foot is the foot at the far right, at the bottom right corner of the pudding tray. His left foot must then be the foot at the bottom left corner of the tray, the shoe with the lifted heel and the dragging toe, third from the right. This identification generates the striding pose which Romdahl suggested was the correct reading of the figure. There is strong evidence for choosing the lifted foot as the "correct" left foot in the clear depiction of the back of the tray-carrier's left thigh. This appears just above a pudding bowl and next to the pole that serves as a handle for carrying the tray. This thigh appears to extend behind the tray-carrier in such a way that it could not possibly be connected to the mysterious extra foot in the middle.

This lifted foot is not obviously a right or a left. The arch of the foot, which might have given us an indication of leftness or rightness, is concealed by the shapeless shoe. Although the tray-carrier's poised and lifted left foot does seem oddly slimmer than the other feet in the picture, for all are wearing the same soft round-toed black shoes, a comparison with feet found in the midst of transient movement in other Bruegel paintings reveals this elongation to be the painter's usual way of representing a lifted foot. An example can be found in *The Wedding Dance in the Open Air* (Institute of Arts, Detroit): the suspended left foot of the female dancer in the left foreground.

The owner of the "third foot" can quite easily be identified. This dark shape is not the heel of a foot advancing to the right as previous writers must have assumed. Rather, it is the toe of a foot advancing to the left, a toe that belongs to the young man standing between the tray and the table, passing the bowls of pudding to the seated guests.

The pudding-passer wears the broad round-toed shoes that are seen everywhere in the painting. The toe of the pudding-passer's right shoe is clearly visible: it appears beneath the left-hand corner of the tray on a line directly below his right hand. Thus, the four feet that we see beneath the tray are staggered in their arrangement with regard to their owners. They should be identified as follows, reading from left to right: pudding-passer's right foot, tray-carrier's left foot, pudding-passer's left foot, tray-carrier's right foot.

The inside of the pudding-passer's right thigh, his codpiece and the fastenings of his belt can all clearly be seen. What might at first appear to be the edge of his thigh is in fact the darkly shaded edge of the full sleeve on his left arm, crossing over his body and hiding the rest of his leg. The pudding-passer's left leg

Figure 4. Pieter Bruegel the Elder, *Peasant Wedding*. Reconstruction drawing of the foreground figure-group, based on the author's tracing and executed by Greg Andreas, University of Cambridge, Department of Architecture (Photo: Author).



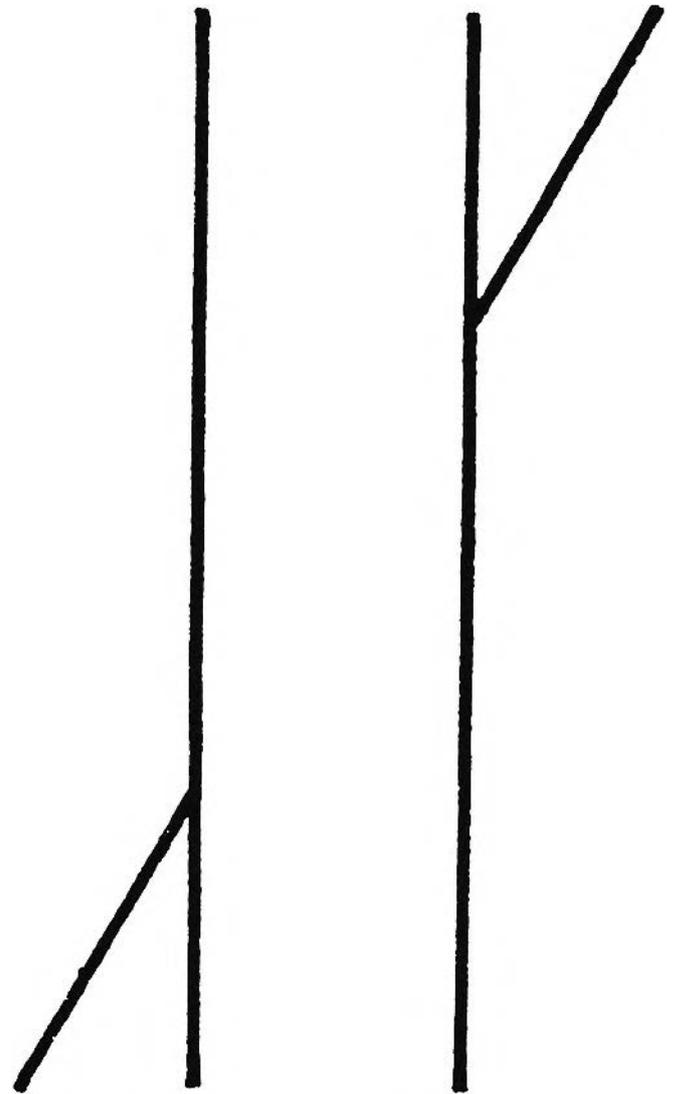
is hidden behind the tray-carrier's bulky form and the pudding tray. However, in the tiny space between the tray-carrier's left hand and the back of his thigh, we can clearly see the pudding-passer's left knee.

The dramatic foreshortening of the figure of the pudding-passer conceals so much of his anatomy that we have a certain amount of difficulty in reading his pose and consequently in recognizing the extra foot beneath the tray as his left foot. He is seen at an oblique angle and partially from the rear, giving an incomplete view of the figure. Incompleteness is also a feature in the orientation of the two tray-carriers. They, too, are seen from the rear and at an oblique angle providing considerable further ambiguity. The rear view is unusually frequent in Bruegel's work, giving his figures an anonymity and a characteristic bulk in his compositions. This can be seen, for example, in *The Hunters in the Snow*, also in the collection in Vienna.

In the *Peasant Wedding* the figures seen from the rear oblique are the largest figures in the painting. This perspective is the least informative view of a specific action and expression of a figure that the artist can choose, as less of the limbs and face is seen than from any other angle. Even a full rear view would have greater clarity. This choice of an obfuscating orientation for the dominant figures contributes to the difficulty in identifying the owner of the "third foot."

There are yet further reasons for this difficulty. Firstly, there is the continuous line of the many feet that move across the foreground of the painting. The extra foot belongs to this distracting surface pattern more easily than it does to the figure of the pudding-passer. Secondly, the foot appears to be attached

Figure 5. The Poggendorf Illusion. Author's drawing based on J.O. Robinson, *The Psychology of Visual Illusion* (London, 1972), fig. 3.37 (Photo: Author).



to the tray-carrier's shin and therefore could be interpreted as his left foot. The surface design of the solid form of the tray-carrier fallaciously leads us to believe that the problematic foot is spatially very close to him and hence likely to belong to him. There is no interrupting edge that would create a distance between the foot and the leg, such as the long white apron that separates the second tray-carrier's left leg from the right shoe of the man seated on the stool behind him. Unfortunately, in most reproductions, there is little colour difference between this foot and the tray-carrier's leg. However, even in the dimly lit "Bruegel room" at the Kunsthistorisches Museum, the observer can distinguish a colour difference: the tray-carrier's leggings are dark green and the pudding-passer's shoe is dark brown. It may be that the colours have deteriorated in the passage of time, but the

Figure 6. Pieter Brueghel the Younger, *The Peasants' Wedding*, oil on canvas, 70 x 105 cm, Ghent, Musée des Beaux-Arts (Photo: Musée des Beaux-Arts, Ghent).



hand-tinted illustration in Gluck's edition of *Bruegel's Gemälde* of 1932 makes the green of the leg and the brown of the shoe quite obvious.<sup>15</sup>

The oblique orientation, the strong pattern of right-facing shoes, and the superficial proximity of the tray-carrier to the "third foot" tie the extra foot to the surface design of the painting, preventing us from perceiving the pictorial depth. A misleading impression of flatness is created which is in conflict with the illusion of the deep diagonal recession of the barn, of the table and of the figures. This flatness hampers our ability to conceptualize the image of the pudding-passer's body and his action as an integrated whole, while it fosters the myth of "the man with three feet."

The resolution of this misleading flatness and the puzzling "third foot" lies in the position of the pudding-passer. He is situated in the gap between the table in the background and the tray in the foreground. He straddles the two disparate spaces with his widely-parted legs and outstretched arms, performing a balancing act as he passes the puddings. He shifts his weight from table to tray with one foot in each perspective. In order to appreciate the position of the pudding-passer and his left foot,

the viewer must make a perceptual adjustment from one perspective system of recession to another.

We can conclude then that the dark shape which has mistakenly been called the tray-carrier's "third foot" must be the pudding-passer's left toe. We can visualize the complete figure of the pudding-passer, mentally connecting his left knee to his left foot. Additionally, an outline drawing traced from a photograph of the Vienna painting has a dotted line included to reconstruct the pudding-passer's left leg, which in the painting is hidden behind the tray (fig. 4). In this line drawing it can be seen that the reconstructed figure is not at all unnaturally proportioned.

However, there may still be some discomfort for the viewer in connecting his body with his estranged toe. For instance, the objection might be raised that this proposed left leg seems far too long. There appears to be some distortion, a lack of linear continuity between the knee and the foot, but this is a deceptive optical illusion, known in the psychology of visual perception as the Poggendorf illusion. In this construction a continuous diagonal straight line that is crossed and partially occluded by a vertical band of a certain width will appear to be discontinuous

Figure 7. Pieter Bruegel the Younger, *The Outdoor Peasants' Wedding*, oil on canvas, 67.5 × 104 cm, Private Collection (Photo: Brod Gallery, London).



(fig. 5).<sup>16</sup> One portion of the diagonal line will appear to have shifted out of alignment with the other. The Poggendorf illusion is one of apparent movement, which the artist possibly arrived at unintentionally but which, none the less, served his purpose.

Once the pudding-passer has been correctly identified as the owner of the extra foot, the observer can perceive and respond to the whole figure's action and to the painter's skill in the representation of a figure in motion. The pudding-passer moves in a self-contained spiral with speed and efficient grace. He stands with his legs stretched wide apart and his knees bent deeply for ease and balance. He has shifted his weight onto his right leg, and just the toe of his left foot touches the ground for stability. Above the secure base of his legs, he is free to rotate and twist the top half of his body. As he pivots his torso about his waist, he sweeps his arms with confidence in a circular motion, passing the puddings from the tray to the table. His head is turned to anticipate his action, and his eyes are already focused on the next bowl to be passed, providing a co-ordinated flow to his movement.

The incompleteness inherent in the oblique view engages

the viewer. The painter challenges the spectator to complete the figure in the "effort after meaning," creating a temporal dimension in the beholder's perception of the pudding-passer.<sup>17</sup> Bruegel makes intuitive use of this effect and also of the kinetic quality generated by the Poggendorf illusion: the discontinuity of the foot below the tray's edge and the leg above it imply a shift in time and space, a moment in which the pudding-passer seems to have moved.<sup>18</sup> Furthermore, the sequence of feet in their compelling surface pattern is a third stimulus to the viewer's kinaesthesia. Lastly, there is the parallax in the two perspective systems of the picture-space that engages the viewer and may even engender an active movement from one side of the panel to the other.<sup>19</sup>

The spatial inversion and perspectival disjunction, the rhythmic pattern of feet, the rear oblique presentation of the figures in action, and the Poggendorf illusion all enhance the beholder's perception of movement in the painting despite its static two-dimensional reality. Through the subliminal knowledge of our own remembered movements, we are able to reconnect the upper body of the pudding-passer with the visually dislocated foot beneath the pudding tray despite the limited information

Figure 8. Frontal view of the live reconstruction of the foreground figure-group in Pieter Bruegel the Elder, *Peasant Wedding*, University of Edinburgh, 1986 (Photo: Joe Rock, University of Edinburgh).



Figure 9. Side view of the live reconstruction of the foreground figure-group in Pieter Bruegel the Elder, *Peasant Wedding*, University of Edinburgh, 1986 (Photo: Joe Rock, University of Edinburgh).

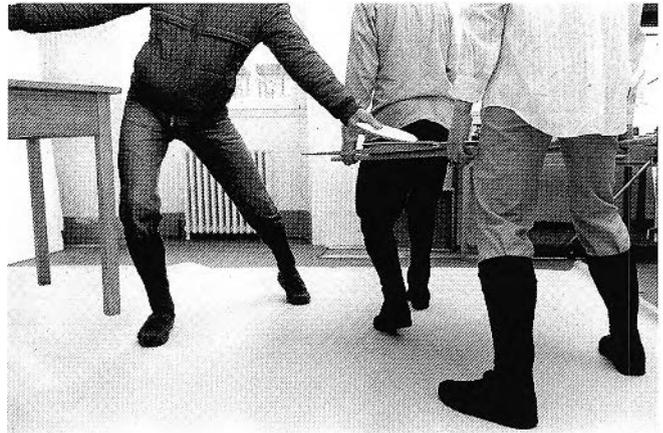
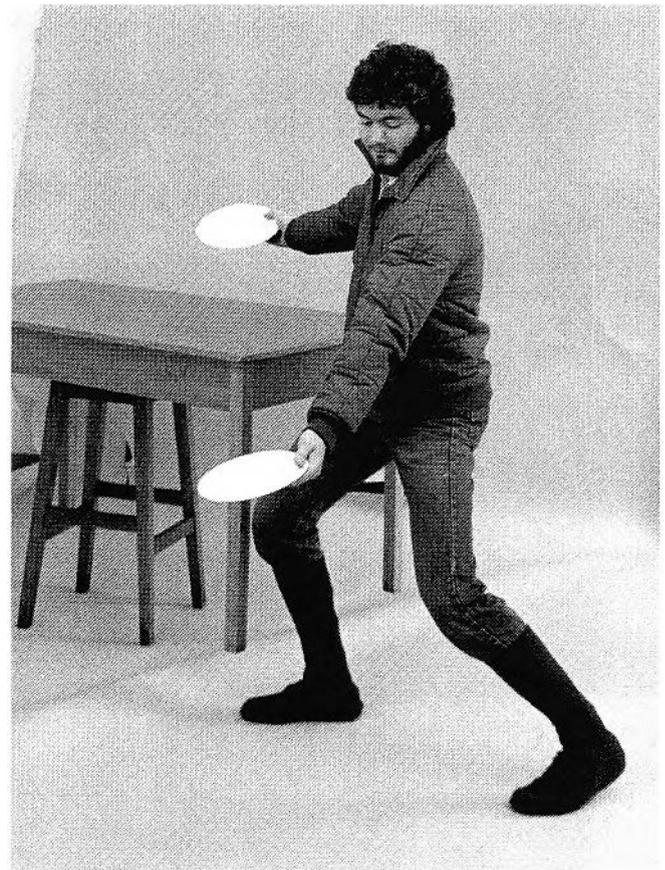


Figure 10. Frontal view of "pudding-passer" figure from the live reconstruction of the foreground figure-group in Pieter Bruegel the Elder, *Peasant Wedding*, University of Edinburgh, 1986 (Photo: Joe Rock, University of Edinburgh).

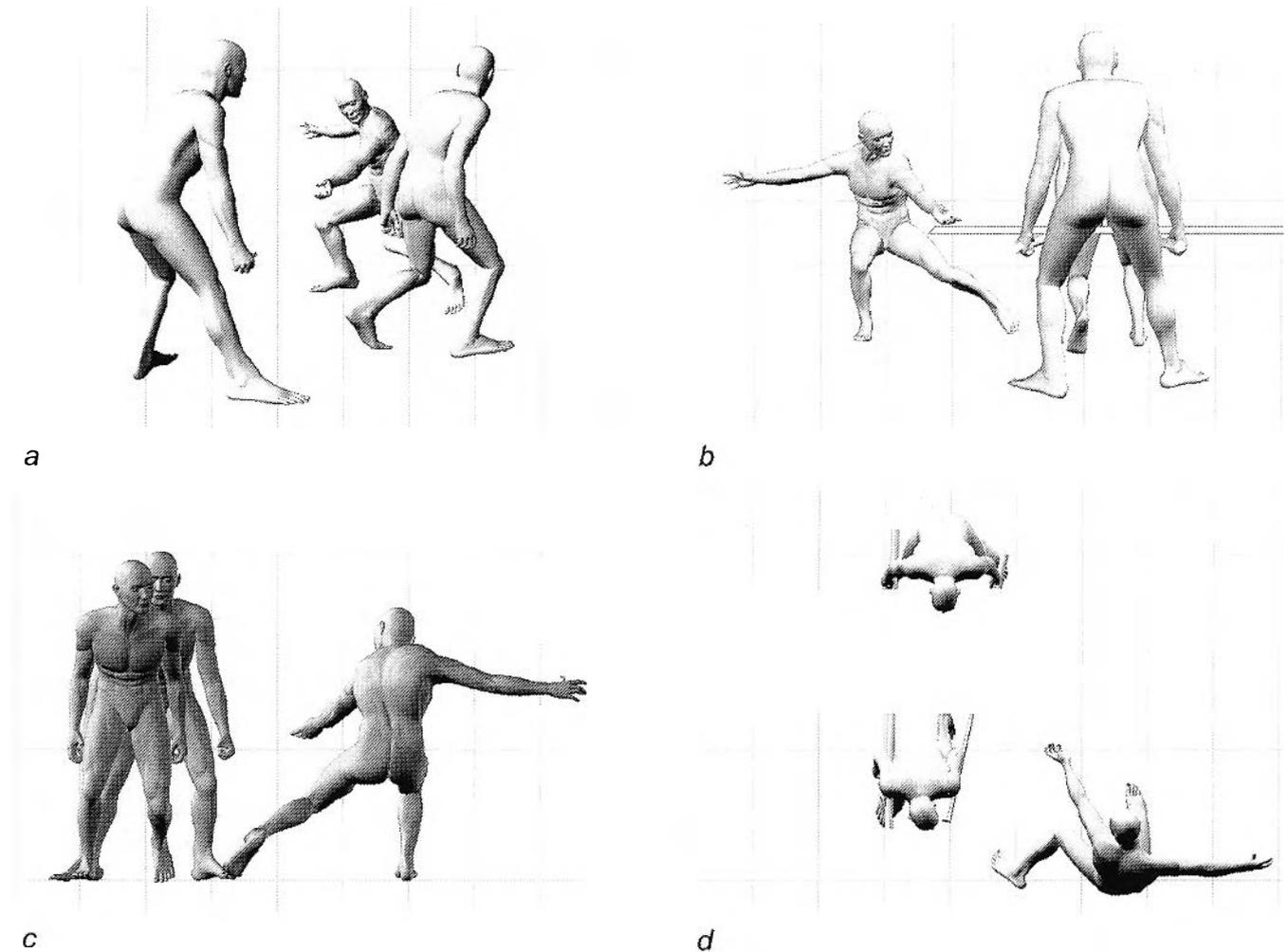


with which the painter has provided us.<sup>20</sup> It is this kinaesthesia that allows us to solve Bruegel's riddle.

It appears that confusion has surrounded "the man with three feet" since at least the seventeenth century. While Axel Romdahl may have been the first historian to articulate the difficulties created by the foreground figure composition, there is considerable evidence that the generation of painters that followed Bruegel the Elder was puzzled by the arrangement of the feet. A number of copies of the *Peasant Wedding* survive in museums and private collections, most probably painted in the Antwerp workshop of Pieter Brueghel the Younger, half a century after his father painted the original in Brussels.<sup>21</sup> An examination of these copies reveals a consistent rejection and reduction of the complexities in the space construction and figure-grouping of Bruegel the Elder's composition. In all the known copies the overlapping double-perspective construction of the original has been arbitrarily reduced to an uneasy muddle.

Of particular interest is the way in which Bruegel the Elder's puzzling "man with three feet" has suffered at the hands of the copyists. For example, when the painter of the copy now in Ghent was confronted with the problem of recreating the foreground of the original, he apparently could make no sense

Figure 11. Digital images of the foreground figure-group in Pieter Bruegel the Elder, *Peasant Wedding*, created by the author with the assistance of Andrew Schulz: a) frontal view; b) viewed from the left; c) dorsal view; d) overhead view (Photo: Bruce Hanks, University of Winnipeg).



of the arrangement of the feet beneath the tray (fig. 6).<sup>22</sup> In this copy the leading tray-carrier is shown in the striding pose which, as has been demonstrated, is the likeliest choice. However, the copyist has left out the extra foot, in his concern to correct and rationalize what may have seemed to him an impossible situation or even a mistake on the master's part. The same omission occurs in other copies presently in the United States, Italy and Belgium.<sup>23</sup>

In some of the copies the wedding feast is set out of doors rather than in a hay-filled barn, but the essential figure composition is hardly changed.<sup>24</sup> These outdoor versions of the scene present the same solution to the problem of "the man with three feet" as did the copies with an indoor setting: that is, the "third foot" is consistently left out.

The second-rate copyists of the Vienna original were unable to reproduce the complex composition that contained all

the feet that Bruegel painted. In these copies the pudding-passer has only one visible foot: perhaps it is assumed that the other foot is hidden behind the body of the tray-carrier and the tray of puddings, or perhaps the pudding-passer is seated at the end of the little bench and not standing in a dynamic pose.<sup>25</sup> The copyists seem to have found the ambiguity of a one-footed pudding-passer preferable to that of a tray-carrier with three feet.

The correct anatomical reading of the feet beneath the tray may have been known to at least one of Bruegel's imitators. One copy of the *Peasant Wedding*, a painting known to have been sold by the Brod Gallery in London, shows a variation on Bruegel's original design of the staggered feet beneath the tray (fig. 7).<sup>26</sup> The copyist in this case has correctly attributed the "third foot" to the pudding-passer, although he, too, was evidently worried by Bruegel's construction. The viewer is presented with a reduction of the problem: the later painter has

Figure 12. Frontal view of the live reconstruction of the foreground figure-group in Pieter Bruegel the Elder, *Peasant Wedding*, University of Winnipeg, 1999 (Photo: Bruce Hanks, University of Winnipeg).



disentangled the four staggered feet, re-arranged them, and laid them out in a neat row so that they fit their respective owners in an obvious way. The flat feet of the copy contrast sharply with the poised feet of the original. Even the re-orientation of the foreground figures, so much more nearly in profile, has put a deadly stop to the illusion of movement inherent in the oblique perspective of the Vienna original. The dynamic focal point of Bruegel's lively painting has been lost in this and indeed in all the known copies.

Despite the problem of the "man with three feet," art historians have always been sensitive to the effect of Bruegel's composition. The kinaesthetic value of the pudding-passer's stance has been praised even though the reasons offered for Bruegel's success were misleading. Romdahl points out the bold design and realism of the three servants, which he attributed to their "informal arrangement," and Max J. Friedländer mentions the dynamic effect of the overlapping figures.<sup>27</sup> Charles de Tolnay describes the pudding-passer as "an automaton who takes and distributes the plates eternally as he turns around himself."<sup>28</sup>

The line-drawing reconstruction is suggestive. Even more persuasive are a pair of live reconstructions and a com-

puter-aided modelling of the foreground group. These investigations yield additional data regarding the painter's viewpoint and method.

In the first live reconstruction, performed at the University of Edinburgh in 1986, it was seen that it is possible to pose three people such that the arrangement of their feet beneath the tray matches the arrangement in the painting very closely (fig. 8).<sup>29</sup> This suggests that Bruegel's enigmatic figure composition is not simply a two-dimensional puzzle but a three-dimensional construction.

It was also determined that there can be only one viewpoint from which the models' feet match the depicted feet. The correct camera position and angle provides information regarding the painter's, and the beholder's, point of view. Through trial and error, this point of view was found to be at approximately four and a half metres from the leading corner of the tray and just less than two metres above the ground.

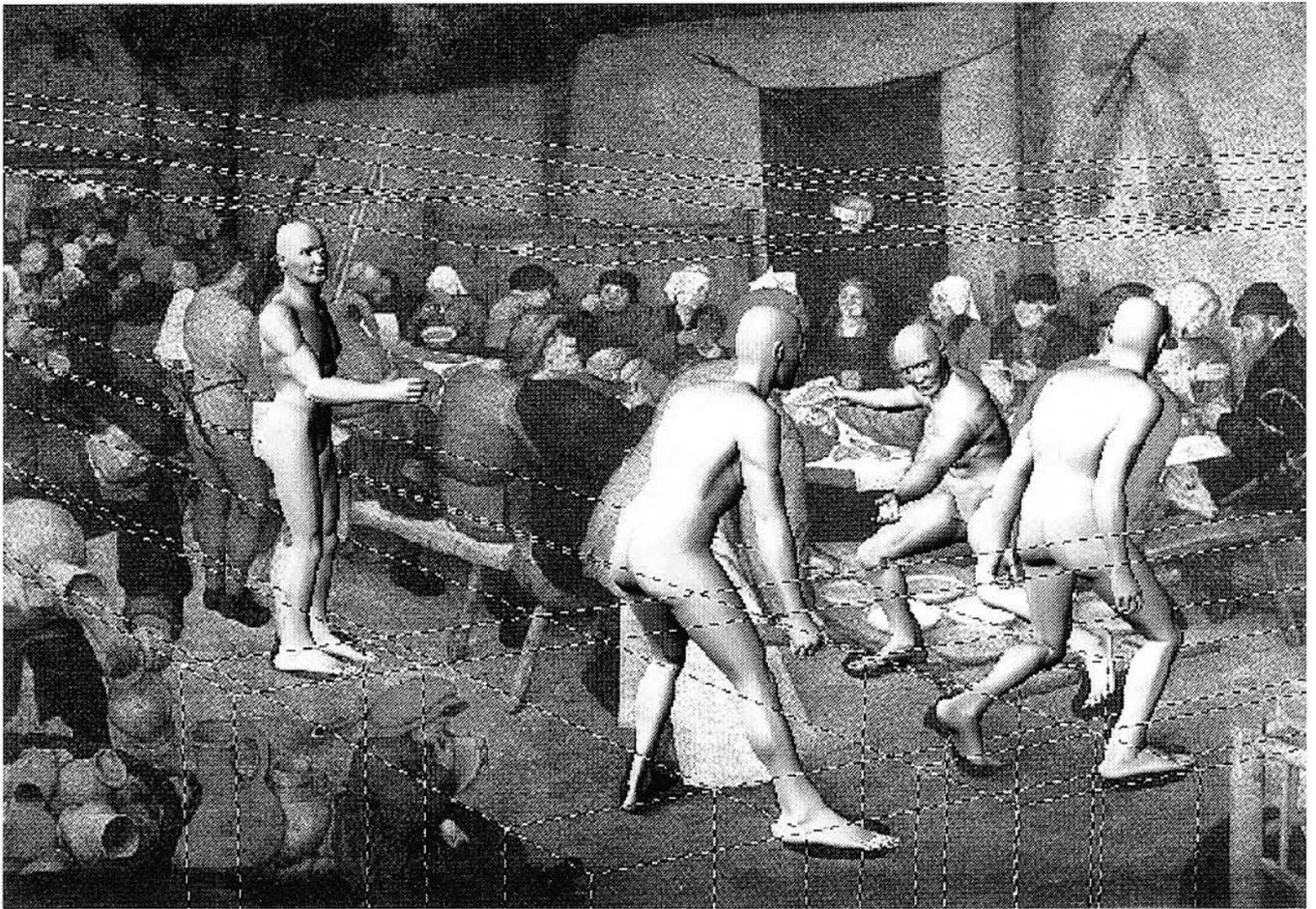
With a second camera in the studio, a simultaneous photograph was taken from the left side of the tableau-vivant (fig. 9).

This gave clear evidence that the three figures could be placed in a three-dimensional space with plenty of room to manoeuvre and no danger of tripping one another. We were also able to photograph the pudding-passer in isolation simply by asking the model to "freeze" while the tray-carriers quickly made their exit from the field of vision (fig. 10). This photograph demonstrates how naturally the pose can be taken and held, despite the fact that this model is a little too tall and should be bending over a little more at both the waist and the knees.

Another consequence of this reconstruction is to demonstrate that the Poggendorf illusion is as powerful in a photograph as it is in Bruegel's *Peasant Wedding*. The illusory discontinuity of the "third foot" and its rightful owner is just as convincing in the photograph as it is in the painting, despite our knowledge that in the case of the photograph the problem foot really does belong to the pudding-passer.

Next, at the University of Winnipeg in 1999, a digital analogue of the figures was created, using a variety of software.<sup>30</sup> This allowed for the rotation of the constructed figures and precise measurements of their positions (fig. 11). Particularly useful was an overhead view which provided a clear map of the feet (fig. 11d). This modelling reinforced the above conclusions

Figure 13. Superimposition of the digital image of the foreground figure-group onto Pieter Bruegel the Elder, *Peasant Wedding* (Photo: Bruce Hanks, University of Winnipeg).



and led to a second live reconstruction, also conducted at the University of Winnipeg in 1999 (fig. 12).<sup>31</sup> In testing this virtual model with lives figures, we were able to refine the above measurements of the point of view. The camera was placed 5.11 metres from the tray corner and 1.73 metres above the floor.

In the superimposition of the digital figures onto the painting, we can see the accurate match between the digital models and the painted figures (fig. 13). The bagpiper, also replaced by a digital image, was used as a scale for the proportions of the figures.

These experiments raise the possibility that Bruegel could have used live models in preparing the composition, establishing the pattern of the feet beneath the tray from life. He may also have constructed the arrangement of the foreground figures from a mental image, possibly informed by the works of Italian and Antwerp Mannerists. In any case, the physical plausibility of the pudding-passer's stance demonstrates Bruegel's understanding of human anatomy and movement.

Many authors have pointed to Bruegel's instantaneity and

liveliness, to his concern for movement and his unique ability to render it. In resolving the puzzle in the *Peasant Wedding* we are able to apprehend certain elements of Bruegel's representation of movement.

#### Notes

I am grateful to the late Sir Ernst H. Gombrich and Professor Peter Jones of the Institute for Advanced Studies at the University of Edinburgh for their assistance in the development of the ideas presented in this paper.

- 1 Abraham Ortelius, *Album Amicorum* (Antwerp, 1574–96), preserved in Pembroke College, Cambridge, trans. in Wolfgang Stechow, *Northern Renaissance Art 1400–1600*, Sources and Documents in the History of Art Series, ed. H.W. Janson (Englewood Cliffs, N.J., 1966), 37.
- 2 I am indebted to the following sources for the study of movement perception in painting: Rudolf Arnheim, *Art and Visual Perception*

- (London, 1972); Sir Ernst H. Gombrich, *Art and Illusion* (London, 1960); Etienne Souriau, "Time in the Plastic Arts," *Journal of Aesthetics and Art Criticism*, VII (1940), 294–307; Carla Gottlieb, "Movement in Painting," *Journal of Aesthetics and Art Criticism*, XVII (1958), 22–23. On kinaesthesia, see J.J. Gibson, *The Senses Considered as Perceptual Systems* (London, 1968); J. Dickenson, *Proprioceptive Control of Human Movement* (London, 1974). Edward Snow discusses "motor-visceral empathy with the human figure" in "'Meaning' in the *Children's Games*: On the Limitations of the Iconographic Approach to Bruegel," *Representations*, 1, 2 (Spring 1983), 26–60. The kinaesthetic response to Bruegel's work and the solution to the problem of the man with three feet were first discussed in my doctoral dissertation: Claudine Majzels, "The Dance in the Art of Pieter Bruegel the Elder," Ph.D. diss., University of Pennsylvania, 1977.
- 3 The picture is painted in oil on panel, measures 114 × 163 cm, and is neither signed nor dated. It is generally agreed to have been painted at about the same time as its pendant, the *Peasant Dance* (Kunsthistorisches Museum), which bears the date 1568. In his biography of Bruegel, Carel van Mander mentions an oil painting of a peasant wedding feast owned by Hermann Pilgrims, an Amsterdam patron: Carel van Mander, *Het Schilder-Boek* (Haarlem, 1604), f. 233v. There is also evidence of a peasant wedding acquired by the Archduke Ernest on 16 July 1594: Fritz Grossman, *Pieter Bruegel the Elder* (London, 1973), 200. This may be the painting which is listed (no. 561) in Archduke Leopold-Wilhelm's *Inventory* of 1659 and which must be identified with the *Peasant Wedding* in Vienna today, as cited in René van Bastelaer and Georges Hulin de Loo, *Peter Bruegel l'ancien* (Brussels, 1907), 305. The picture appears in Christian van Mechel's listing of the Imperial Collection (no. 65) in his *Catalogue des Tableaux de la Galerie Imperiale et Royale de Vienne* (Basel, 1784), 185. The panel was taken by Napoleon's army in 1809 and then returned to Vienna in 1815 where it has remained ever since. According to the dimensions given in the *Inventory* of 1659 noted above, it would seem that the picture was once both wider and longer, as cited by Gustav Gluck, *Bruegel's Gemälde* (Vienna, 1932), 85. The panel now includes a strip 5.5 cm wide and slightly darker in tone which has been added along the bottom edge of the panel, perhaps to repair damage to the original edge which may have contained a date and/or a signature. The panel remains narrower than its pendant, the *Peasant Dance* (114 × 164 cm). The two panels were described as a pair as early as 1784 by Christian van Mechel in the *Catalogue* cited above.
  - 4 Axel Romdahl, *Pieter Bruegel den älter* (Stockholm, 1947), 77–78.
  - 5 Ludwig von Baldass, "Les paysanneries de P. Bruegel," *Les Arts Plastiques* (Brussels, 1948), 479.
  - 6 Gustav Stridbeck, *Bruegelstudien* (Stockholm, 1956), 284–85.
  - 7 Sir E.H. Gombrich gives a similar example of an animation effect in an Egyptian relief from the tomb of Ti at Sakkara: E.H. Gombrich, *Art and Illusion*, The A.W. Mellon Lectures in the Fine Arts 1956, 4<sup>th</sup> edn (London, 1972), 123.
  - 8 Alan Coren, "Goodbye Dorian Gray!" *Punch* (London, 18 January 1978), 87.
  - 9 Carel van Mander, *Het Schilder-Boek*, f. 233r, trans. Author.
  - 10 Sigmund Freud, *Jokes and Their Relation to the Unconscious*, The Pelican Freud Library VI (Harmondsworth, 1976), 198–99, 289.
  - 11 Kenneth Craig, "Pars Ergo Marthae 'transit: Pieter Aertsen's inverted paintings of Christ in the House of Martha and Mary," *Oud Holland*, IXLVII, 1 (1983), 25–39.
  - 12 Jos Schrijnen, *Nederlandsche Volkskunde*, 2 vols (Zutphen, 1914), II, 211.
  - 13 Bruegel similarly placed the vanishing point in the drawing for *Temperance* from the series of *Seven Virtues* (Rotterdam, Boymans-van Beuningen Museum, 1560) found in Ludwig Münz, *Bruegel, The Drawings* (London, 1961), 148, and René van Bastelaer, *Les Estampes de Peter Bruegel l'Ancien* (Brussels, 1908), 138. In this case the vanishing points met in the wrist of an actor on the theatrical stage in the background. This is a visual pun that parallels the verbal pun: the "joining point" and the anatomical "joint" (in Flemish "punkt").
  - 14 Hans Sedlmeyer proposed a spherical space in his analysis of Bruegel's *Blind Leading the Blind* (Naples, Gallerie Nazionali di Capodimonte): Hans Sedlmeyer, "Pieter Bruegel: Der Sturz der Blinden. Paradigma einer Strukturanalyse," *Epochen und Werke, Gesammelte Schriften zur Kunstgeschichte* (Vienna/Munich, 1959), I, 319–56.
  - 15 Gluck, *Bruegel's Gemälde*, plate 39.
  - 16 J.O. Robinson, *The Psychology of Visual Illusion* (London, 1972), 76–80.
  - 17 E.H. Gombrich, "Moment and Movement in Art," *The Image and the Eye* (Oxford, 1986), 60.
  - 18 Gombrich, "Moment and Movement in Art," 58–59.
  - 19 William Simpson, "Depth Discrimination from Optic Flow," *Perception*, XVII, 4 (1988), 497–512.
  - 20 Gunnar Johanson, "Visual Motion Perception," *Scientific American*, CCXXXII, 6 (June 1975), 76–88.
  - 21 Georges Marlier, *Pierre Brueghel le Jeune* (Brussels, 1969), 177–83.
  - 22 Marlier, *Pierre Brueghel le Jeune*, 179.
  - 23 Marlier, *Pierre Brueghel le Jeune*, 178–79.
  - 24 Marlier, *Pierre Brueghel le Jeune*, 183.
  - 25 School of Pieter Brueghel the Younger, *Peasants Eating*, illustrated in *The Burlington Magazine* (July 1970), plate XXXVII.
  - 26 Marlier, *Pierre Brueghel le Jeune*, 183.
  - 27 Axel Romdahl, "Pieter Bruegel der Aeltere und sein Kunstschaffen," *Jahrbuch der Kunsthistorischen Sammlungen des Allerhöchsten Kaiserhauses*, XXV (1905), 138–39; Max J. Friedländer, *Pieter Bruegel* (Berlin, 1921), 106.
  - 28 Charles de Tolnay, *Pierre Bruegel l'Ancien* (Brussels, 1935), 53, trans. Author.
  - 29 The reconstruction photographs were taken in the studio of the Department of Archeology at the University of Edinburgh in 1986. I am grateful to the photographer, Dr Joe Rock, and his assistant, Ms Sheila Lithgow.
  - 30 Author with Andrew Schulz: Electronic Arts Deluxe Paint 5, Impulse Imagine 4.0, Metacreations Poser 3.
  - 31 The reconstruction photographs were taken in Convocation Hall at the University of Winnipeg in 1999. I am grateful to Ms Louise Duguay, Ms Alexandra Hatcher and the photographer, Mr Bruce Hanks. My thanks also to the students who participated in this project.