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## A BRIEF CROSS-DISCIPLINARY STUDY OF LION PAW PRINTS IN GIOVANNI PISANO'S PISA PULPIT (1302-1310)

*On the seventh centenary of Giovanni Pisano's death*

'And the great lion walks through his innocent grove'.<sup>1</sup> It has not previously been noted that Giovanni Pisano (d. 1318) carved animal tracks on the base of one of two lions—the male specimen chasing an ungulate—bearing columns in his pulpit for Pisa Cathedral (Fig. 1).<sup>2</sup> Numerous marks are visible on the lion's base, reflecting a situation where several specimens and their prey have been trampling over the same patch of ground. The lion's left hind paw presses into the ground leaving an indentation, suggesting that he is advancing across a soft plain (Fig. 2). This is in striking contrast with the flat and polished bases of both his lioness mate in Pisa, and indeed of all other pulpit telamons fashioned by Giovanni Pisano and his father Nicola.<sup>3</sup>

The portion of the base located between the lion's left thoracic (front) and pelvic (rear) limbs is also the most significant, since not only do the marks intensify in this area, but their shapes and arrangement also allow us to identify two full paw prints (Fig. 3). Two larger impressions indicative of metacarpal (palm) or metatarsal (sole) pads are in fact visible, showing that two separate prints were made. Paw print A is found caudal (towards the tail) to the thoracic limb and faces in the direction of movement; paw print B is found closer to the pelvic limb and is oriented in the opposite direction. Overlooked for more than seven centuries, these may be the first naturalistic paw prints carved in marble in post-Classical Western art.

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<sup>1</sup> Lines five and six of W. H. Auden's 'Fish in the Unruffled Lake', in *Collected Shorter Poems (1927-1957)*, New York, Random House, 1967.

<sup>2</sup> For an overview of Giovanni Pisano's Pisa pulpit, see A. Moskowitz, *Nicola and Giovanni Pisano: The Pulpits*, London, Harvey Miller, 2006, pp. 93 ff.

<sup>3</sup> There is only one similarly overlooked exception, Giovanni's carved water running across a corner of the base of his telamon showing a lion attacking a foal in his pulpit for the church of Sant' Andrea in Pistoia.

Captive lions were not rare in early fourteenth-century Italy, so Giovanni Pisano and contemporary onlookers of his pulpit would likely have seen a living specimen pacing a cage at least once in their lives.<sup>4</sup> While we lack documentation for Pisa, in Tuscany, the case of Florence is the best documented. The chronicler Giovanni Villani (d. 1348) records the gift of a lion to the city in 1273.<sup>5</sup> Some years later, in 1290, the Florentine republic acquired cheetahs, leopards and lions, and commissioned the building of a menagerie in proximity to the headquarters of the Capitano del Popolo, later known as the Bargello Palace.<sup>6</sup> New menageries were built in 1293 and, following the inauguration of Florence's new public palace (today's Palazzo Vecchio), in 1298, testifying to both a protracted interest in big cats as well as to the provisional nature of such animal shelters.<sup>7</sup> Around the same time of the pulpit's creation, lions would have also been seen in Rome, Venice, and other Italian cities, during an era in which people were beginning to study nature with increased assiduity and a proto-scientific mind, and with the aid of drawings and other cognitive tools.<sup>8</sup>

Giovanni Pisano used drawings in his workshop, as attested by a Sienese document of May 1296.<sup>9</sup> Anita Moskowitz has proposed that he also drew from life, and that the infant *Jesus* of the *Nativity* scene on his Pistoia pulpit (1297-1301) is 'the first true neonate in the history

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<sup>4</sup> G. Loisel, *Histoire des Ménageries de l'Antiquité à nos jours*, Paris, Octave Doin et Fils Éditions, 1912, vol. 1, pp. 150 ff.

<sup>5</sup> *Cronica di Giovanni Villani*, ed. P. Massai, Florence, Magheri, 1823, vol. 2, p. 95.

<sup>6</sup> The relevant documents in *Le Consulte della Repubblica Fiorentina dall'anno MCCLXXX al MCCXCVIII*, ed. A. Gherardi, vol. II, Florence, Sansoni, 1898, pp. 19-23, 26, 69, 91, 106, as quoted in Loisel, cit., p. 150, note 1.

<sup>7</sup> *Le Consulte*, cit., vol. 2, pp. 419, 421, 424, 427, 592, 597, as quoted in Loisel, cit., p. 152.

<sup>8</sup> U. Ilg, 'La scoperta della natura in pittura', in M. Seidel (ed.), *Storia delle arti in Toscana: Il Trecento*, vol. 1, Florence, Edifir, 2004, pp. 171-196.

<sup>9</sup> The transcription in P. Bacci, 'Fine del capitolo inedito su Giovanni Pisano e il duomo di Siena', *Bollettino d'Arte* 4/5-6, 1941-1942: 330-331.

of art'.<sup>10</sup> While the practice is not documented for Giovanni Pisano, we know that plaster casts were also used in the late Middle Ages to record, replicate and possibly counterfeit natural objects, namely human bodies and faces.<sup>11</sup> Giovanni's first-hand observation of African lions (*Panthera leo*) may be inferred from the presence of recognizable anatomical landmarks (e.g., olecranea, that is, elbow joints; carpal joints; carpal pads; etc.) in the marble lions on both his Pistoia and Pisa pulpits. Unlike in much earlier sculpture, including the ancient examples Giovanni may have been familiar with, the lions' overall proportions are also roughly correct.<sup>12</sup> However, although concerned with verisimilitude, Giovanni was also obliged to take structural constraints into account. For instance, his marble lions have shorter thoracic limbs and much larger forepaws than their real-life counterparts. This significant alteration of the forelimb-paw ratio likely served structural purposes, since a sturdy lion makes for a more resistant column support than a lean, naturally proportioned one.<sup>13</sup> On a compositional level, this alteration also makes the Pisa lion look strong and aggressive, having just captured his prey (Fig. 1).

The Pisa paw prints are rendered so as to persuade viewers of a necessary relationship with their natural referents, that is, the marks left by one or more large quadrupeds on soft soil (Figs 1-2). Their most striking feature is that, when measured, they were found to be to scale to a real lion's. Just like in nature, the Pisa lion's fore and hind paw prints measure 12 and 13

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<sup>10</sup> A. Moskowitz, 'A Late Dugento Male Nude Studied from Life', *Source: Notes in the History of Art* 16/4, 1997: 1.

<sup>11</sup> In synthesis, see D. Olariu, *La genèse de la représentation ressemblante de l'homme. Reconsidérations du portrait à partir du XIIIe siècle*, Bern, Lang, 2014, passim.

<sup>12</sup> For a discussion of anatomical imprecisions observed in classical Greek marble lions, see R. Cohon, G. M. Constantinescu and A. Henry, 'Anatomically Incorrect: Some Classical Attic Crouching Lions', *American Journal of Archaeology* 105/2, 2001, p. 290.

<sup>13</sup> The respective forelimb-paw (antebrachium-metacarpal) ratios of a male African lion (1.6) and of Giovanni Pisano's marble lion in the Pisa pulpit (0.9) differ sensibly.

centimetres, respectively. While this may be fortuitous, ultimately it is also rather baffling, since Giovanni, as both a sculptor *and* an architect, would have understood the importance of measuring as a means of seeing the relation of the parts to the whole. Indeed, he might have been conversant with the famous ancient anecdote whereby the Greek sculptor Phidias gauges the size of a lion by looking at one of the animal's paws, or one of its claws.<sup>14</sup>

And yet, despite their precision, the Pisa pulpit's paw prints are not anatomically accurate (Fig. 3), indicating that a) Giovanni aimed for convincing representation, not indexicality; and b) that he may have been unable to study lion paw prints closely and at length, if only for the practical reasons of accessibility and visibility. Medieval menageries did not welcome naïve meddlers. On the Pisa pulpit, paw print A's metacarpal pad shows some elements of the three-lobed, scalloped appearance of an actual African lion's left forepaw; however, it is also compressed on one side, appearing narrower than in nature. Its lobulated edge (indicated with \* in Fig. 3) should be pointing in a caudal direction, but instead veers laterally towards the left. The imprints of the digital pads also only approximate nature.<sup>15</sup> They are splayed too far apart, as if the digits radiated directly out from the metacarpal pad; in nature, conversely, the digits are located closely together on the cranial border of the lion's paw. The distance between the digital pads and the metacarpal pad is also exaggerated in the Pisa lion. Furthermore, Giovanni carved his Pisa lions with fully outstretched claws, and claw marks are also visible in digits V of paw print A and IV of paw print B. Lion claws—unlike dogs' claws—

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<sup>14</sup> Lucian, *Hermotimus*, 54. We would like to thank Emily Moore for pointing out this reference. While Lucian's dialogue was not known in the West for most of the Middle Ages, it is possible that the Phidias anecdote was transmitted orally.

<sup>15</sup> The digital pads of paw print A can be interpreted in two ways, neither of which is anatomically correct: (I) as labelled in Fig. 3, showing the imprints of digits II-V and an unrelated mark on the caudolateral aspect; alternatively (II) all five digital pads form an imprint, with the most medial digit being digit I (i.e., the dew claw).

are highly retractable and hence do not usually appear in their paw prints.<sup>16</sup> Only occasionally may the weight of a large lion in movement cause the claws to push out, leaving marks similar to those observed in Pisa on a soft surface, such as mud.<sup>17</sup> It is likely that Giovanni turned to more familiar and easily accessible dog paws and tracks in order to complement his knowledge of lion anatomy (in the same way that Leonardo is known to have studied cat paws for a similar purpose two centuries later).

Paw print B is incomplete and faces in the opposite direction to that of movement, confirmed by the fact that the claw mark of digit IV points caudally (Fig. 3). This presence of oppositely-oriented paw prints might or might not be coincidental. Giovanni carved the Pisa lion and lioness so that they appear to be moving in a clockwise and counter-clockwise direction, respectively, alongside the circular base of the pulpit. In so doing, lion and lioness also mimic the circular movements of onlookers around the pulpit.<sup>18</sup> The Latin inscription in verse that runs alongside the pulpit's base begins with the verb *circum-eo, ire* (to circumnavigate, or to encompass), further emphasizing movement and circularity, albeit from a philosophical standpoint.<sup>19</sup> With an eye to morphology, it should be noted that the metatarsal pad of paw print B is larger and also more accurate than the metacarpal pad of A, yet it lacks any convincing scalloping on the caudal edge. Again, there is an elongated, narrow imprint located caudolaterally to digit V, similar to that observed in paw print A. The distance between

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<sup>16</sup> N. H. Bryant, A. P. Russell, R. Laroiya and G. L. Powell, 'Claw retraction and protraction in the carnivora: Skeletal microvariation in the phalanges of the Felidae', *Journal of Morphology* 229/3, 1996: 289-308.

<sup>17</sup> A. van Den Heever, 'How to Track a Lion', *Londolozzi Blog*, <http://blog.londolozzi.com/2012/05/09/how-to-track-a-lion/> (last accessed on 15<sup>th</sup> December 2017).

<sup>18</sup> J. Lubbock, *Storytelling in Christian Art from Giotto to Donatello*, New Haven and London, Yale University Press, 2006, pp. 85-145.

<sup>19</sup> Original Latin in O. Banti, 'Giovanni Pisano: rileggendo le due epigrafi del Pergamo del Duomo di Pisa', *Critica d'arte* 69, 2007: 105-113.

digit V and the metatarsal pad is anatomically quite accurate, but digits IV and III are once again located too far towards the head.

Human beings have an ancestral fascination for animal tracks. Giovanni Pisano's lion paw prints belong in the same category as the countless imprints of bears, badgers, ungulates and birds sketched or engraved on the walls of prehistoric caves across the five continents.<sup>20</sup> The Pisa paw prints thus testify to Giovanni's inventive powers and curiosity, and only secondly to his analytical skills. Whatever the case, it seems unlikely that he would have planned to carve tracks on the lion's base during the design stage for the pulpit. Rather, the paw prints must have taken shape in his mind while he was adding the final touches to this work. Areas of unfinished work in both Pisa and Pistoia reveal that Giovanni would assemble his pulpits before proceeding to fine carving, surface polishing and polychromy. This is also the methodology that makes the most sense. Accidental damage may occur as a piece is being transported from the workshop to the site of the pulpit within the church, and a roughly-carved sculptural element is more easily reworked or replaced than a finished one.

One can visualize Giovanni and his collaborators in Pisa as they set about polishing the marble surfaces of the pulpit, endeavoring to avoid breakage, relying on the technology available at the time—basalt stone, emery, shark skins, straw, water, sand and marble powder—as well as a great deal of patience and goodwill.<sup>21</sup> This task is likely to have occupied Giovanni and his workshop for days if not weeks in 1309-1310, likely creating a good deal of boredom, but also an opportunity for further rumination over the pulpit. It is tempting to

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<sup>20</sup> G. Didi-Huberman, *La ressemblance par contact. Archéologie, anachronisme et modernité de l'empreinte*, Minuit, Paris 2008, especially Part 1.

<sup>21</sup> On surface treatment in late-medieval Italy and the Mediterranean, see L. Palozzi, 'Contextualizing English Alabasters in the Material Culture of the Medieval Mediterranean', in Z. Murat (ed.), *English Alabaster Carvings*, London, Boydell&Brewer, forthcoming 2018.

interpret the Pisa paw prints as a marginal note added by Giovanni to the work as it approached completion.

The Pisa lion paw prints lend themselves to multiple interpretations. It may be that Giovanni Pisano used them simply to introduce an element of *varietas* in his lion, one grounded in experience and based on direct observation, if perhaps of dog rather than lion tracks. In so doing, however, he also offered the most perceptive among his viewers a chance to enlarge their perception of the artwork through extended contemplation of one of its figural elements. The paw prints metonymically allude to the spatio-temporal reality of their natural referent—the lion—beyond the practical and conceptual limits of the artwork. As soon as our imaginations break free from the constraints of a codified liturgical object (in this case, a church pulpit), so too does representation. The lion in Pisa ceases to be the static marble support of a pulpit column and begins walking through his innocent grove (Fig. 1). Giovanni might have intended to further stress this tension between reality and representation by adding tracks on the lion's base – as if to say that the sculptor is capable of producing figures that not only approximate life but, indeed, live and walk. The now-lost polychromy would have emphasized the lion's lifelike quality, likely tricking onlookers' minds.

However, for the sculptor and contemporary viewers alike this weighty roaring lion would have also been symbolic of Christ's incarnation. In medieval bestiaries, the lion's erasing of his tracks with his tail is often interpreted as a metaphor for Christ as God Incarnate, that is to say, a God disguising his divinity in earthly forms. Giovanni Pisano's naturalism thus performs a twofold trick. The sculptor gives a medieval lion in marble a believable body, retrieving his wiped-out tracks. And in so doing, he also offers viewers of his pulpit a tangible sign of God's presence on earth.



## Captions

Fig. 1. Giovanni Pisano, *Lion chasing his prey*, seen from the front, 1302-1310. Carrara marble. Pisa, Cathedral. Photograph: Ivan Bianchini.

Fig. 2. Giovanni Pisano, *Lion chasing his prey*, seen from above, 1302-1310. Carrara marble. Pisa, Cathedral. Photograph: Ivan Bianchini.

Fig. 3. Giovanni Pisano, *Lion chasing his prey*, seen from above, with detail of paw prints A (130 mm.) and B (120 mm.), 1302-1310. Carrara marble. Pisa, Cathedral. Photographs: Ivan Bianchini.

Top image. Print A is located immediately caudal to the paw of the left thoracic limb (left *manus*). Print B is caudal to paw print A and facing in a caudal direction, possibly indicating that this print is from the left pelvic limb (left *pes*). Close up of inset shows the metacarpal pad (MC) and the pads of digits II-V of paw print A outlined. MT = metatarsal pad.