INTRODUCTION

All animals grow old and die; the only guarantee of life’s continuance lies in reproduction. Aristotle was so struck by this fact that both his biological and his metaphysical work continually allude to the issue. Furthermore, his On the Generation of Animals (GA) focuses exclusively on animal reproduction and is one of the most comprehensive works on the topic surviving from the ancient world. Two sets of scholars have taken a special interest in the theory of reproduction found in the GA. The first are those who are interested in Aristotle’s views on gender and his ‘sexism’ – various feminist schools of theory and criticism. The second set are classicists and historians of philosophy who hope to discover more about Aristotle’s metaphysics and philosophy by looking at this mature theoretical treatise. The approaches of these two sets of commentators widely diverge, and so do their conclusions concerning Aristotle’s intentions and philosophical achievements. For the former, there is much to disparage in Aristotle’s attitude towards women; for the latter, the theoretical content is problematic, perhaps representing contradictory or incoherent positions to the reader. Both present any modern commentator with unique challenges. Given this history of interpretation, the question remains: why might this text continue to interest us? One of the most important reasons to read Aristotle’s GA is that it provides us with unique access to his views on female biology, which lead to a greater understanding of his philosophy. Thus, those interested in Aristotle’s philosophy will find study of his GA to be profitable and so will those interested in gender.

As is obvious from even the most basic of empirical observations, the continuation of life through reproduction is only possible due to the female body. Indeed, to any casual observer, the female body’s ability to produce young, and to provide nourishment for their survival, may seem quite wondrous. In comparison, the
ability of the male to produce semen (the function of which was not understood until relatively recent times) does not seem so crucial. Indeed, in some cultures semen is not deemed to be of any importance at all.¹ Certain accounts of human pre-history postulate a transition in emphasis from women to men as primary generators of offspring. This changeover is then taken to fit with transitions occurring in social, cultural and religious practices; when fertility goddesses were superseded by male divinities, real men took over power from real women.² This narrative can be easily questioned, starting with the assumption that respect for female fertility necessarily entails respect for actual women.³ Its endurance in the popular imagination, however, can help to explain how many frame Aristotle’s theory of reproduction. Aristotle (as with others in early written history) comes to represent an endorsement of the male as the primary sex through ‘discounted female importance in the one area where the primitive and uneducated mind suspects female superiority’ (Horowitz, 1976, 185–6). Seemingly despite clear evidence to the contrary, Aristotle thinks that the male provides life and soul to an incapable female system. Thus his theories can be made to mark the ‘scientific’ underpinning of wider reaching cultural phenomena – the assertion of a ‘father right’ that undermined the freedoms of real women.⁴ This is, in part, why his views have been of interest to many feminists.

Feminist critiques of Aristotle that draw on his role in establishing the male as the primary sex often look to his biology. Linking his biological works with other texts, many try to show that Aristotle was in the business of justifying patriarchy through his depiction of female bodily and reproductive incapacity. An initial survey of Aristotle’s views on women and females from

¹ For example, Trobriand Islanders. Malinowski (1929).
² Along with this transition, women may have lost power over their own fertility – proscriptions were brought into place to control women, for instance with regard to premarital sex, marriage, wearing of veils, adultery, contraception and abortion. Bachofen (1861), Frazer (1922), Briffault (1927), Neumann (1956), Gimbutas (1956) and Rich (1977) ch. IV. Ruether (2005), however, argues that theories of early matriarchy were constructs of nineteenth century European scholarship (Introduction and ch.1).
³ Some second wave feminists have been accused of fabricating a matriarchal golden age. See particularly the criticisms of Davis (1971) in Hackett and Pomeroy (1972).
⁴ See, for example, Keuls (1985).
various works is helpful. In his *Politics* he says that they are naturally ruled by men and that their virtue consists in obeying their husbands (*Pol*. 1254b12–15, 1259b4–9, 1260a23). He states that women lack an authoritative deliberating faculty – they cannot think adequately on their own and so must be told what to do by someone better than themselves (*Pol*. 1260a20–30). As for their behaviour, he considers them to be weak, cowardly and conniving in temperament.

All females are less spirited than the males, except the bear and the leopard ... [they] are softer, more vicious, less simple, more impetuous, more attentive to the feeding of the young, while the males on the contrary are more spirited, wilder, simpler, less cunning. ... Hence a wife is more compassionate than a husband and more given to tears, but also more jealous and complaining and more apt to scold and fight. The female is also more dispirited and despondent than the male, more shameless and lying, is readier to deceive and has a longer memory; furthermore she is more wakeful, more afraid of action, and in general is less inclined to move than the male, and takes less nourishment. The male on the other hand, as we have said, is a readier ally and is braver than the female. Even in the case of cephalopods, when the cuttlefish is struck with the trident the male stands by to help the female; but when the male is struck the female runs away (*HA* 608a32–608b19).

Aristotle also held that men contribute form and women matter in reproduction. Comparing the process to carpentry, he argues that there must be something equivalent to the timber that constitutes chairs and beds. The ‘timber’ in generation is the menstrual blood of the female, which will be moulded into the offspring by the male who acts as the carpenter.

Thus grasping the widest view of each, [the male principle] as maker and mover, and [the female principle] as that which is acted on and moved, the thing that comes to be is not made one from these, except as a bed is from the carpenter and the timber, or as the sphere is from the bronze and the form (*GA* 729b14–19).

For Aristotle, the female is distinguished by a lack of power or ability; it is weak and cold (*GA* 726b31–35) and, thus, unable (*adunamia*) to concoct pure semen (*GA* 728a18–20, 765b9–19, 766a31–5). For this reason, at one point he even characterizes it as ‘like a deformed male’ (*GA* 737a28). Together these areas, the political, the socio-biological and the reproductive nature of women, are thought to represent a misogynist or ‘sexist’
programme. Aristotelianism, especially in its medieval guise, has given us systematic sexism, linking together the various fields noted above and denying women an equal role in society on the basis of reproductive incapacity. However, on close analysis of the key texts it becomes clear that Aristotle himself did not have such a system in place; crucially, he did not form any justificatory arguments as later thinkers did.

When it comes to his biological works on their own, and particularly the *GA*, the usual feminist critique argues that Aristotle regards the female as contributing nothing positive to generation, no movement or ability, being like passive or empty matter. This characterization of the female role is then combined with the idea that the female is not a ‘real’ or true parent of offspring and that the human female is not fully human. I will argue against these intertwined ideas by first exposing the persistent and entrenched habit in many of these commentaries of getting crucial details wrong about Aristotle’s theory of reproduction. In particular, in the *GA* Aristotle offers positive views of the female role. She contributes very specific materials to generation: materials that contain movements ensuring resemblance to herself and her ancestors (of both sexes). When analysing Aristotle’s biology the fact that his theory of the sexes is ‘sexist’ ought not to obscure sound scholarship which hopes to capture an accurate account of his theory of the female role.

Meanwhile, scholars of ancient philosophy and classical texts, who study the *GA* in order to learn more about Aristotelian philosophy more generally, find it curious that Aristotle seems to change his mind about the female role, first noting its passivity and then explaining its positive contribution to heredity. Although this has been an important focus for the study of Aristotle’s theory of reproduction it turns out that his position need not be seen as problematic or contradictory with regard to the female role. Through in-depth analysis of his position, it is possible to understand how he moves from a general overview of issues to a more detailed analysis. There is no doubt that for Aristotle the male is superior and that the sexes stand in a hierarchical relation. However, he also espouses a reciprocal or complementary model of the sexes, meaning that in some respects their contributions are
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comparable and not exclusive of the properties of the other (not like pure form and pure matter, which would be impossible in his ontology in any case). It is a misunderstanding to imagine that these two positions need contradict each other – however, a subtle exposition of his metaphysics and philosophy is required in order to explain their complementarity.

Close readings and contextualization will be the main techniques used to interpret Aristotle’s writing in this book. Through this method, it will be seen that the role he assigns to the female is complex and significant. Furthermore, through careful consideration of the female role in the GA, we are able better to understand the sophisticated and intricate association of soul and body in Aristotle’s philosophy. His view of the living world as striving for perfection, action and completion is a theme that runs throughout the work, but there is also an awareness on Aristotle’s part of the effects of external, non-purposive forces on the life, health and reproductive capacities of living beings.

In Part I, I intend to set out two general approaches to the study of Aristotle on females, namely those emerging out of feminist concerns and those that attempt to defend Aristotle and set his philosophy apart from sexism. I will end Chapter 1 by noting the different ways in which Aristotle’s sexism has been characterized, setting out which of these best captures his attitude. I then go on in Chapter 2 to discuss where the GA is traditionally placed in Aristotelian scholarship. I argue that the methods that Aristotle employs in order to discuss and explain various aspects of generation, while generally falling in line with his methodological recommendations in other more familiar works, also deserve our special attention as a source of his philosophy.

Part II begins a more specific study of Aristotle’s description of how male and female contribute towards the generation of a new animal. Interpretations which obscure the important work of the female in generation often focus on Aristotle as a ‘one-seed’ theorist, who believed that only the male contributes towards generation. In Chapter 3 I argue that this is a misinterpretation of Aristotle’s theory, which ought, in fact, to be counted as a ‘two seed’ theory. Chapter 4 looks closely at the texts which describe how the female contributes ‘matter’ to generation and argues that
this cannot be empty or passive, in that ‘matter’ must be understood in terms of its relation to the soul of the adult animal and the specific potentialities it contains. Careful analysis of the text and related ideas in Aristotelian biology reveal that the female supplies an extremely specialized material. Moreover, the material role ought not to be viewed in a static manner; matter and form in the context of the generation of animal must be taken dynamically. Part III considers the ways in which the male role has been characterized by commentators and asks which is the most plausible interpretation, given the text of the \( G.A. \). I argue that, although the male contributes no material, his role is not transcendentally divine, as it came to be understood in the medieval period. By conveying form, the male facilitates the continuation of type from one generation to the next, but Aristotle is not directly connecting the male role to godliness. Instead its association with theology must be understood with reference to Aristotle’s particular ideas about what divinity consists in. In this section I will also reject reductions of the male role in Aristotle to mechanistic models, which misleadingly suggest that his science is closer to ours than is actually the case. These models have often resulted in a tendency to undermine the female role in his philosophy. The female role becomes that of inert and empty post-Newtonian ‘matter’, which is not what Aristotle intended, and thus these models must be put aside. The final part of the book, Part IV, is a study of generation in lower animals and particular instances, Chapter 7 focusing on the former. The \( G.A. \) includes detailed analyses of non-human reproduction, including that of bees, fish, birds and those animals that are incapable of generation and must rely on it happening spontaneously. These discussions display how carefully Aristotle considers the empirical evidence, without forcing it to fit with preconceived ideas, particularly of gender roles and relations. It also reveals more about the content and capacities of the female contribution through a detailed study of eggs. This fits well with the reciprocal model of the sexes so prominent in \( G.A. \) IV–V. Chapters 8 and 9 discuss \( G.A. \) IV.1–3 on sexual differentiation and hereditary resemblance. The two are related in so far as both require that the male and female contributions bring their own
unique potentialities to the mixture which results in the new animal. The male and female contributions must be in the correct proportional relationship (summetria) with each other in order for generation to occur (GA I). By GA IV Aristotle has refined his analysis of the interaction of male and female in order to account for particular instances of generation. The process of development in generation results not only in an animal of the type required but also in a unique sexed individual, possessing characteristics of both parents, and sometimes of ancestors on both male and female sides. In his explanations of sexual differentiation, a robust drive towards femaleness is apparent. The complementary model of the sexes becomes prominent in this context and allows him to expand on the idea of the female contribution as a material possessing specialized capacities. In heredity, many of these capacities stand in direct opposition to similar capacities in the male contribution.

In the final Chapter (10), I consider other discussions within the GA which reinforce my interpretation of the female role as a natural product of the body, connected to the soul and working together with the male to ensure the development of the new animal. The section is framed by questions concerning teleology, since deformity and variations in generation occur when both male and female souls have been unable to subdue and control environmental forces. Once again it becomes clear through looking closely at the text that the female does not contribute recalcitrant materials; instead, the ultimate goal of generating to type is disrupted by factors outside of the realm of the specific purposes of any particular species.

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A series of Medieval and Renaissance illustrations depict Aristotle being dominated by a woman (Figure 1.1). The woman, called Phyllis, is sitting on his back, as if he were a mule. According to myth, Phyllis sought revenge on Aristotle after he told her husband, Alexander the Great, not to neglect public affairs on her account. She made sure that Aristotle fell in love with her, and was then able to humiliate him. The original message of the illustration seems to have been both anti-Aristotelian and anti-woman: Aristotle is shown as someone who cannot abide by the
principles he espoused, while Phyllis is cunning and insincere. If originally misogynistic, the idea of Aristotle being ruled by a woman has also been attractive to feminist critics, as a symbol of their power over this philosophical great.\textsuperscript{5} The image could also

\textsuperscript{5} See Horowitz (1976) 189–91.
Preliminaries concerning Aristotle’s study of nature
capture another important truth which is that, despite the many ways in which he characterized men as superior to women, Aristotle was also noticeably struck by female influence in the natural world. As a philosopher of nature, literally a lover of the wisdom gained in studying the natural world, he did not so much endure female nature as embrace it with his characteristic wonder and curiosity. Female nature (like Phyllis in the myth) can be seen to powerfully influence Aristotle’s theories. However, in considering its wonders, Aristotle did not thereby rescind his male-centred and male-bias point of view. He never completely fell in love. Thus, he need not be viewed as someone who cannot abide by his principles. The feminist cannot dominate him on these grounds. However, she can illuminate his intricate theory of the female in the belief that this is an important part of the history of philosophy and one which helps us to better understand ancient attitudes towards female nature.

Preliminaries concerning Aristotle’s study of nature

Aristotle’s philosophy of nature comprised a series of detailed and technical studies. It will be necessary to assume some knowledge of the general structure of his ideas in this area. This section gives a brief précis of five topics: (1) explanation of change, (2) matter and form, (3) the four causes, (4) potentiality and actuality and (5) the generation of animals.

(1) Explanation of change. The first challenge a natural philosopher faced in the time of Aristotle was to give an account of how change occurs (Ph. I). For Aristotle something has to remain unchanged throughout a transitional process in order for an explanation of it to be stable and knowable. He posits that there are three factors in any instance of change, the two poles between which the transition occurs and the stable substratum. Thus, if I sit in the sun, a human will remain as substratum while cold and hot exchange for each other. This is an example of qualitative change; the opposites exist in the category of quality. Aristotle thought that change could take place in four categories: quality, quantity, place and substance. Quantitative change is either in the direction of growth or diminution in size. Change in place is best known by the Latin ‘locomotion’. Change in substance is quite a different type of change and
understanding how it works is of fundamental importance to Aristotle’s philosophy. A substance in Aristotle’s metaphysics is generally believed to be ‘what something is’: its form or essence. But when Aristotle refers to substance in his early account of change it probably means some definite object, rather than a class. So, for instance, the table I am leaning on is a substance. Substantial change occurs when a substance comes into being where it did not exist beforehand, or a substance ceases to exist where it once did. To explain this process adequately, Aristotle needed to introduce matter (hulê), form (eidos) and privation (sterêsis). A transition occurs between the poles of form and privation (of form); the stable substratum of this transition is the matter. In the case of this table coming to be, an unordered state of the materials (privation of form) exchanges for an ordered state (form); the timber (matter) underlies the change and continues to exist throughout.\(^6\)

Aristotle often uses craft analogies to illustrate his theory. However, items such as tables were not his favoured objects of study and probably do not represent true substances (Metaph. VII.10–11). Aristotle’s Physics is the study of nature (phusis) and natural objects are fundamentally different from artificial ones. The difference lies in the fact that items with a nature have an internal source of change and rest. (If they are animals or plants, this source of change and rest is the soul.) Artificial objects rely on an external agent to create, operate and maintain them. Natural objects do not.\(^7\)

Matter and form. Aristotle’s distinction between matter and form can be contrasted with that of Plato. Platonic Forms are transcendent and the relation they bear to the world as we know it is obscure, sometimes resulting in the ‘two worlds’ problem, that is, it sometimes seems that for Plato there are two separate and incommensurable worlds: the world of Forms and that of sense objects or ‘particulars’.\(^8\) Plato falls into this difficulty in part because the Forms are objects of knowledge and as such must be immutable. Objects in this world, in contrast, undergo (almost constant) change and transition. Aristotle shares Plato’s epistemological concerns to some extent: forms must be immutable in order to be properly investigated and known. However, he avoids any two-world problem by making his forms immanent, that is, they exist as part of the normal objects we experience. The form of a table is within the table itself and not some separable, transcendent

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\(^6\) See Ph. I.  \(^7\) Ph. I.1–2.  \(^8\) Annas (1981) 193–4.