

Aesthetics and functionality of clothing for people with atopic dermatitis - a collection of children's clothing.

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Part I

Introduction

Many people in my environment, including me, have or have had skin problems of various etiology. These are for instance, skin changes causing persistent itching, skin hypersensitivity of various origins. Allergic reactions to some raw materials of textiles. Skin hypersensitivity to synthetic dyes used in the clothing industry. In addition, various types of skin allergies, for example to detergents, water, etc., causing pathological skin changes.

However, I have never come across a special type of everyday clothing that can help people in such situation. Furthermore, I have not even encountered any clothing that would be holistically designed for children with specific, very sensitive or diseased skin.

Skin hypersensitivity appeared in my environment thanks to my daughter, struggling with sensory skin hypersensitivity. In her case, it revealed by reluctance to wear any clothes ... The child was irritated by all kinds of tags, internal seams, some fabrics or knitted fabrics as well as prints and applications. For this reason, having my daughter in mind I have created the first collection of my own brand DECODADA - the clothes were to be intriguing, made of delicate materials. The assumption of their design was to develop creativity and the willingness to play among small users. In the subsequent works, the internal seams became external seams, the clothes also had delicate linings or layers to protect the child's skin from the contact with rough construction elements.

The Body

Our culture extensively explores the topic of our body and carnality since the 60's of the twentieth century.

Homer understood skin as two concepts – the concept of a boundary (chros) and an anatomical concept (derma). Ancient Greeks associate the Apollonian element with

intellectuality and limitation (elevation) while the Dionysian element of carnality was associated with “unbridledness” and savagery. From the time of Plato onwards the body and carnality is also connected with evil. Aristoteles gives priority to the soul over the body, while with Descartes we can observe a clear separation of the body from the mind.¹ Throughout centuries a paradigm of the body evolved, the body operates as a machine which is torn away from the mind and soul.

Our body is also a natural border between everything that is natural – private and that which is public – social. The figure of our body which occurs in philosophy as something alien > something different is a heritage to the ancient as well as the modern times.

Modern philosophy, cognitive and phenomenology both try to connect the body and the soul trying to find a different approach, putting aside the separation of the body from the mind. Devaluation of the body becomes a subject of inquiry especially in feminist philosophy.²

We think that we are omnipotent, we think that we can tame our body but our body has its own laws. In the right moment our body admonishes those laws to us.

The body falls in illness, the body suffers – with these signs it focuses all of our attention on it.

Skin diseases

In dermatology textbooks there is about 2000 to 3000 dermatological diseases.³

In recent times due to the progress of civilisation some skin diseases intensified.

- Atopic dermatitis (AD) can be seen in 12 to 24% of the population in highly developed countries such as Europe, United States of America, Canada and

¹ Monika Rogowska- Stangret “Ciało - poza Innością i Tożsamością”, Wydawnictwo: Fundacja Terytoria Książki, Gdańsk 2019 /słowo/ obraz terytoria. str 7

² ibidem, str. 27-46

³ Fritch P. “Dermatologie und Venerologie fur das Studium. Springer-Lehrbuch, Heidelberg 2009

Australia.⁴ The percentage of people with AD in other countries hits below 5% of the population.

- Vitiligo is diagnosed in around 1% of the population in industrialized countries.⁵

- Dermatoses and eczema of various origins are periodically experienced by most of the population. (e.g. one in three Polish people did or will experience a skin pathology – data from Polish epidemiological studies).⁶

Part II

... "It is not at all unlikely that illnesses have their own histories, each era has its own defined illnesses in which form they did not occur before and will not occur in a similar form in the future"

Troels Fredric Troels – Lund

A Danish historian (1840- 1921)

this quote is loosely translated from "Still life with a bit" by Z. Herbert

Chapter II. 1

Medical Basics

Skin pathologies with special consideration of atopic dermatitis, vitiligo and sensory skin hypersensitivity.

The tissue structure of skin is highly specialized and complicated. It consists of an epidermis, basement membrane, dermis and subcutaneous tissue.

Right underneath the epidermis there is a papillary layer which consists of water in 70%. It mainly serves the purpose of thermoregulation of the organism, exchange of

⁴ <https://www.mp.pl/pacjent/pediatric/choroby/skora/62304,atopowe-zapalenie-skory-azs-u-dzieci> (odwiedziny 12.05. 2020)

⁵ <https://www.mp.pl/pacjent/dermatologia/choroby/chorobyskory/167718,bielactwo-nabyte> (odwiedziny 12.05.2020)

⁶ https://pl.wikipedia.org/wiki/Choroby_sk%C3%B3ry (dostęp 11.05.2020)

nerve stimuli with the surrounding world and it is also highly supplied with blood and has an extensive system of lymphatic vessels. There are sebaceous glands in the dermis. In the subcutaneous tissue there are sweat glands, glands that produce pheromones, hair follicles and whole network of neurons.⁷

The epidermis is a layer of the skin which constantly renews itself through the loss of dead cells – this process usually stretches across the period of a month but people with psoriasis experience a much quicker process which comes down to 4 days. Due to such acceleration the epidermis of a person who struggles with psoriasis cannot fully expectorate new cells.

Thickness of skin depends on its location - the thickest skin can be found on the back while the thinnest skin is on the eyelids.

Longterm damage of the skin surface – more than 50% (e.g. due to I and II degree burns) or 15% (e.g. due to III and IV degree burns) result in death.⁸ Skin is a thermoregulator of the organism, it deals with the gas exchange between our body and the rest of the surrounding world, it protects the body from microorganisms and UV rays.

Vitiligo⁹ as well as atopic dermatitis are both diseases most common in children and young adults under 20 years of age.

Atopic dermatitis is a genetically transmitted disease but only a predisposition to this disease is inherited. Environmental factors have a huge influence on the occurrence of the disease. People who suffer from AD are characterized by low immunity to bacterial and viral infections as well as susceptibility to microbial pathogen colonization on the skin. Small wounds that spread over the skin are an

⁷ Stevens A., Lowe J., Zabel M. (red. pol.): Histologia człowieka. Wydaw. Lek. PZWL Warszawa 2000.

⁸ <https://www.poradnikzdrowie.pl/zdrowie/urazy-wypadki/oparzenia-rodzaje-stopnie-oparzen-kiedy-oparzenie-zagraza-zyciu-aa-HHPw-ynai-vDtf.html> (odwiedziny 12.05.2020)

⁹ <http://www.czytelniamedyczna.pl/1346,bielactwo-nabyte-wspolczesne-poglady-na-etiotogeneze-i-mozliwosci-leczenia.html> (odwiedziny 12.05.2020)

effect of this. These wounds heal over a very long period of time, they also they cause a discomforting itch, autoimmune reactions and allergies. The functional failure of the skins immune barrier means that allergens of various origins can penetrate into the deeper layers of the skin.

The epidermis becomes dry, water loss through the epidermis occurs at an alarming speed. The bodies sensitivity to various stimuli, both tactile and inflammatory increases and the susceptibility to penetration by allergens increases.

The building of a regular coat of lipid which protects healthy skin becomes disturbed. Skin which is famished of ceramides has problems with water retention and with the proper functioning. of the intercelluar transmission system. This results in lichenification (thickening) of the epidermis. The changes are dependant on the age of the person who carries the disease, infants and babies usually develop the changes on their face, on the scalp or on the torso.

For the age group from 3 years of age to 11 years of age the changes develop on the knee and elbow flexion, the neck and wrists. Adults often encounter additional exudative lesions and scabs on the backs of the arms and hands.

To determine the specificity of the disease, diagnostic criteria were developed under the names – Hannifin-Rajka and Wiliam.

Contamination of the environment highly impacts the occurrence of the disease. Chemical compounds related to various types of plastics, synthetics, harmful fumes, herbiscides and pesticides degenerate natural processes of immunity, paving the way for allergens to the body. It disturbs the functioning of the immune system.

The illness can also relate to food allergies, especially in infants. Around 50 to 90% of patients are also susceptible to airborne allergies.

Above all come dust mite allergies (dust mites are organisms that feed on dry, flaky epidermis which have good development conditions due to the dry and flaky skin), pollen from various grasses, cereals, trees and shrubs during the flowering season. Animal allergens also play an important part in the development of the illness.

Patients who come in contact with these allergens often develop bacterial infections.¹⁰

Chapter II. 2

Depression in children suffering from AD and dermatoses of various origins.

The skin of an adult takes up around 2m² of surface and is the largest human organ. It develops at the beginning of life of an embryo in one of the three germ layers, it forms in the same germ layer in which the nervous system is formed. Therefore, the sense of touch appears as one of the first senses during the development of a zygote and is visible only a few weeks after the fertilization of an egg.¹¹

During the foetal life, a complicated mechanism of reception of various stimuli by skin cells develops. At this stage complex formulas of sensory sensitivity begin to build up. The tactile system begins to develop, it is called the haptic system – if the tactile stimulus arises as a result of activity or the tactile system if the tactile stimulus comes from the outside.¹²

Nerves found in the skin perceive in fact only three types of stimuli: pain, temperature and touch. Other sensations are only a result of those three stimuli combined in different ways which is why we easily succumb to various tactile delusions. Sensitivity to stimuli that are outside the body i.e. exteroception develops during the foetal life as one of the three components of the sense of touch next to

¹⁰ <http://www.czytelniamedyczna.pl/6225,atopowe-zapalenie-sklry-patomechanizm-diagnostyka-postpowanie-lecznicze-profila.html>
Fragment artykułu: Nowa Pediatria 4/2017, s. 114-122 | DOI: 10.25121/NP.2017.21.4.114 *Magdalena Millan, Jarosław Mijas (Dostęp 12.05.2020)

¹¹ Homo Hapticus. Dlaczego nie możemy żyć bez zmysłu dotyku. Martin Grunwald, tłumaczenie: Ewa Kowynia / Wydanie I 2019/ Wydawnictwo Uniwersytetu Jagiellońskiego/ str 22

¹² ibidem / str 24

the ability to feel the state of one's own body i.e. interoception and the ability to determine the position of one's own body i.e. proprioception.¹³

Thanks to the tactile and haptic systems in the mother's womb a new organism develops, it gains a sense of body and personal autonomy before birth.

Skin is an armour, a barrier against the surrounding worlds. It conveys our physical and mental intimacy. Millions of nerve cells are stored in it – between the nerves and the brain there is a continuous and infinitely fast transduction. It takes fractions of a second for transduction of nerve impulses.¹⁴

The sense of touch is so sophisticated, that we often do not realize that we could live without the sense of sight or hearing but we would not survive without the sense of touch – if we were to lose the sense of touch completely, we would stop developing and die.

Tactile sensation as a result of examination of our body by ourselves as well as the environment develops the body in a manner which is programmed by nature therefore people, especially children with haptic or tactile dysfunctions have significant development problems. According to studies conducted after communism in Romanian orphanages showed that the death rate among orphans whose care was limited to basic life functions was very high. Often there were upbringing, educational and/or cognitive problems. It turns out that physical contact and closeness in the form of cuddling, touching and stroking is a fundamental need for a child, it can be compared to the need of eating, drinking or sleeping.¹⁵

Due to problems with the skin such as lesions, exteroception of people especially children suffering from AD and other dermatoses (except for vitiligo and albinism – in these cases the epidermal receptors are not degraded) is very limited. Above all this has a serious impact on building a sense of closeness with the rest of the family –

¹³ 13 Ibidem/ str 37

¹⁴ National Geographic / Polska / listopad 2002 artykuł : Nasza zbroja -Skóra Joel.L. Swerdlow (str 8 - 32)

¹⁵ Homo Hapticus. Dlaczego nie możemy żyć bez zmysłu dotyku. Martin Grunwald, tłumaczenie: Ewa Kowynia / Wydanie I 2019/ Wydawnictwo Uniwersytetu Jagiellońskiego/ str 38- 65

children who suffer from these illnesses are reluctant to hugging because every type of touch can cause them pain. Parents of such children often withdraw from experiencing intimacy with their child as they fear causing additional suffering.

The child's experiences become deformed: itchy skin increases scratching – instead of a pleasant tactile and haptic experience which is necessary for development, the child experiences constant or frequent discomfort associated with their own body.

Dermatological diseases such as vitiligo and AD can affect the psyche of the patient. The patients experience low self-esteem and a lack of acceptance.¹⁶ Contact with relatives becomes ambivalent.

During the treatment of patients suffering from AD, drugs which contain cortisol are used. These drugs reduce the mental well-being of the patients as well as their cognitive abilities.¹⁷

Chapter II. 3

Social experience in children with atopic dermatitis.

Functioning in everyday society requires wearing a thick armour which consists of a set of learned behaviours, the appearance of our body and wearing clothing that is appropriate to the situation in which we find ourselves.¹⁸ A human has an influence over the message he or she emits into the world, but he or she has no influence on how this message will be perceived by society. Any type of a handicap is quickly picked up by society (a total institution)¹⁹ and is stigmatized.

¹⁶ <http://www.czytelniamedyczna.pl/1346,bielactwo-nabyte-wspolczesne-poglady-na-etiotopogeneze-i-mozliwosci-leczenia.html>
(odwiedziny 12.05.2020)

¹⁷ Homo Hapticus. Dlaczego nie możemy żyć bez zmysłu dotyku. Martin Grunwald, tłumaczenie: Ewa Kowynia / Wydanie I 2019/ Wydawnictwo Uniwersytetu Jagiellońskiego/ str 130.

¹⁸ Piętno. Rozważania o zranionej tożsamości. Erving Goffman, przekład: Aleksandra Dzierżyńska, Joanna Tokarska-Bakir/ wstęp do wydania polskiego Joanna Tokarska-Bakir/ Gdańskie Wydawnictwo Psychologiczne/ Gdańsk 2005/ str. 11

¹⁹ ibidem str. 15

Portraying a stigma sometimes helps and becomes an attribute but sometimes it gets in the way and becomes an imprint on how others see us and our illness. The history of a sigillum (latin- seal, mark, burned in birthmark) dates back to the Middle Ages and is associated with the yellow colour. Yellow is the colour of false gold and Judas' robes. The attributes of exclusion also include for example leper bells... external appearance is often associated with moral flaws which discredit their holder.

However, in the Middle Ages skin eruptions were often seen as a manifestation of grace.

There are various tactics on how to live with a stigma: assimilation, withdrawal, creating groups with people who have similar or the same struggles/diseases, emphasizing the uniqueness of the stigma or an active fight for acceptance. Unfortunately, none of the above give full autonomy to functioning in a society.

A person with a stigma feels the compassion of others who are also marked by the stigma. Among these people the patient may feel unfettered by the standards presented by the world around them but the patient has to isolate themselves. Isolation is ambivalent – it often manifests itself through a lack of acceptance for people who are similar to each other. The enclave is being treated more and more as a group of people inferior to the rest of the society in result it gets stuck in a specific “ghetto”.²⁰ There are many support teams and organizations, e.g. the Association of People with Atopic Dermatitis which can be seen as a group of influence and opinion-forming centre for the members.

The Representatives – these are stigmatized people who have achieved something special such as social success etc. despite their stigma. These are people who are marked with a “sigillum” but yet manage to function in the “normal” community, often achieving significant successes mainly due to their particular stigma.

Support groups often publish many things such as articles which are aimed to support the members' feelings, expressing frustrations and recommending the

²⁰ ibidem, str 55

groups ideology. The family of a person who bears a stigma is just as discredited as the person who struggles with a given stigma, the family of a child who suffers from a given stigma can become a cover - a "lampshade" for the child – it creates a barrier which prevents the child from deprecating opinions and a lack of social acceptance of their appearance. In most cases over a period of time a painful clash with the environment occurs e.g.at school or in kindergarden. Many patients choose to keep the information about their stigma hidden, it creates convenience for them – they can create a positive image of an individual in society.

Their inefficiency is often only visible to initiated people such as doctors.

However, in some cases a stigma cannot be concealed or hidden and things that compensate the defect become an attribute. Hence why for some it is important that the instruments used to retouch the defects are hidden and not conspicuous.²¹

Sometimes the ill person tries to camouflage the stigma while in some cases they consciously and deliberately reveal it, sometimes even intentionally emphasizing it.

Accepting the disease/illness with respect and self-confidence allows the patient to reveal their defect.

Chapter II. 4

The image of people who struggle with dermatological problems in art and pop culture.

Art and medicine have always rubbed and interacted with each other. Both areas are very much interested in mankind – especially their bodies. A healthy body full of vitality and a deformed, ill body which suffers.

Was the ill, suffering body always shown as an expression of sickness? Do artists look for some kind of a charm in it – a deformation which takes on an intriguing and

²¹ ibidem str 133

aesthetically pleasing shape, colour or texture? Are the images of disease not being used consciously by the creators to achieve their artistic goals?

Researchers have become inspired by the altar of Veit Stoss in St. Mary's Church in Krakow. A dermatologist from the interwar period, Franciszek Walter identified several skin diseases with the precision of a master's hand: cutaneous lupus, fibromas, warts and basal cell skin cancer. Stoss used various forms of skin diseases to condemn the persecutors of Christ. Internal corruption clearly affects the physiognomy of soldiers, Pharisees and henchmen. The greater the sorrow the worse gets the disease on the skin – from skin cancer also known as a penetrating ulcer to various types of warts, ulcers and even syphilis which was then a new disease with a very virulent mileage. A soldier who guards the tomb of resurrection suffers from rubella acne. In Christ's Descent into Hell, the image of one of the devils who follows F.Walter is a tuberculosis of the skin – the so-called lupus or a corrosive wolf who is manifested by clear ulcerations, an absence of an upper lip is a result of tissue disintegration, serious cavities in the gums, tooth enamel and skull bones.

Wit Stwoszcz consciously and with a cruel realistic used medical knowledge of different types of symptoms related to various types of skin diseases uses them to arouse disgust and fear in viewers.²² This seems to be creating the archetype of evil which is equated with skin diseases.

The Triumph of Death in the Uffizi Gallery (Florence), The Orcagna Brothers painted people who suffered from leprosy, Mathew Grunewald in the Altar with Isenchi in the scene titled The Temptation of St. Anthony - there is a figure with webbed feet and numerous ulcerations on the body. More than likely the artist himself was a leper who served as a model. Skin disease becomes a synonym of evil coming from the depths of hell. A painting by Domenico Ghitlandai "The Old Man and a Boy" (Old Man with Grandson) painted around 1490, shows an old man with a badly deformed

²² Wit Swoszcz rzeźbiarz chorób skórnych. Szczegóły dermatologiczne Ołtarza Mariackiego. Franciszek Walter (1885-1950) Wydawnictwo Krakowskiego Towarzystwa Miłośników Historii Medycyny pod red. prof. dra Władysława Szumowskiego.

nose which is probably a result of pathological skin changes – presumably rosacea. Yet it is portrayed as a calm, respectable face which carries a history of its own.

Dutch late Gothic and early Renaissance paintings also often referred to the theme of handicap of the human body, perhaps the artists were looking for a charm there. Handicap of the human body can be seen in the works of Quentin Metsys “The Ugly Dutchess” or in “A Caricature of a Woman” - person diagnosed with Paget’s disease. According to doctors, Rembrandt’s self-portraits may prove that he suffered from rosacea with numerous telangiectasias i.e. broken blood vessels. His various self-portraits are considered works of art and the viewer is sympathetic to the red-faced model.²³

Artists saw and dealt with people as they are, with their advantages – they noticed the charm and delicacy, the finesse of the gentle shapes, the perfect proportions in build but also the pathologies that changed their bodies.

We can sit here and contemplate whether it was only an artistic procedure or a simple desire to show that the human body and man are defective beings... It is possible that they were motivated by the desire to look for beauty in the diseases and search for peculiar aesthetic experiences in pathological changes. By commemorating the various diseases of their models in their work, they created their own artistic paths.

How often is disease the cause of ugliness... it deforms facial features, changes the appearance of the skin and body, it can also cause tissue decomposition. This was described by Karl Rosenkranz in *The Aesthetics of Ugliness* (introduction 1853).²⁴ What is inside the body begins to penetrate what is outside of the body – what is usually hidden under the surface of the skin, the outside shows the psychological features of a human... This approach is especially visible in 19th century research works in the field of anthropology, psychology and arts.

²³ <https://prezi.com/mkud1ui1xd6c/choroby-przedstawione-na-dzieach-sztuki/> (dostęp 23.02.2020)

²⁴ 24 Umberto Eco “Historia brzydoty” Wydawnictwo: Rebis, Poznań 2014 r., str 256

Syphilis is a disease that often manifests itself through extensive skin lesions. It also shows through the context of moral corruption and as “punishment” for immortality, fornication and sexual debauchery.²⁵ Artists who want to show the suffering associated with experiencing illness and disability often resort to the visualisation of a disease manifested by pathologically changed skin. Relatives of the ill, often live through the suffering of the ill as one. Compassion is especially visible in the case of ill children. Children who in a natural order are a genetic continuation of their parents’ lives... As in Edward Munch’s “Fall I”. This work is also a record of the suffering of a dying child who was infected by his parents. The theme of a family suffering from syphilis in an avant-garde depiction – an image associated with the composition known from portraits such as “Madonna with Child”. Syphilis manifests through skin lesions... but as a venereal disease it was often associated with debauchery, sexual promiscuity and prostitution.

The “Portrait of Dorian Grey” is a 19th century novel by Oscar Wilde which tells a story about a beautiful exterior that does not succumb to passing and the dingy, broken interior which is visualised with the help of a painting. The portrait shows the true face of its owner. This portrait portrays ulcerated and wounded skin where you can notice the ugliness of the interior which manifests through disease...

Ugliness goes hand in hand with unhappiness, lack of love, ostracism and disease...

²⁶

Disease and the ugliness that comes with it are fascinating for creators, the ill person often becomes the embodiment of suffering, delicacy and the fleeting nature of life.

The “Medicine in Art” exhibition in Mocak (Krakow April 22.2016 - October 2.2016) - curators: Delfina Jałowik, Jurgen Kaumkötter, Monika Koziół and Maria Anna Potocka.

²⁵ Sylwia Romecka-Dymek, Artur Gałkowski, “Interpretacje artystyczno- humanistyczne pojęć piękna i brzydoty w projekcie modowym”, ASP w Łodzi, Łódź 2017, str 33

²⁶ 26 Umberto Eco “Historia brzydoty” Wydawnictwo: Rebis, Poznań 2014 r., str 293 - 303

The interface between medicine and art, man is at the centre of the knowledge field. Often a suffering person is presented as a research object or a medical “case”. Often man is also closely watched by an artist, a creative man and a man who heals himself through the experience of art.

Marta Antoniak – skin deformed by impasto, expressive cuts of colour. A record of pathological changes that our body experiences as a result of disease.

Medicine is also plastic surgery, which we often look at with some kind of superiority... because it is difficult for us to admit that we can suffer as people in order to become, in our opinion a “perfect being”, we seek eternal youth and beauty. Is the socially sanctioned pursuit of perfection also a disease of the times in which we live?

The experience of directly improving the appearance of the body at the exhibition was evidenced by many works, it was one of the topics which the artists dealt with.

Nicole Tran Ba Vank, “untitled” from the Spring/Summer Collection/Photography series where the body is perceived as packaging that may not fit us but in which we can feel in as if we’re in a tight, uncomfortable corset. It’s a record of mental and/or physical pain related to the skin. For me, this is a very suggestive association to children who suffer from AD.

The body and its outer shell often cause physical suffering and pain. It is also a frequent research object for art, especially contemporary art. Another problem is the “difference” which is perceived mentally and physically. The problem of “otherness” of a child touched with AD will accompany my project work, therefore I would like highlight this issue. Often this difference is the source of creativity which comes in a form of self-therapy. The artist fights for social acceptance, pushing the boundaries of taboos, pushing the boundaries of what we consider beautiful. It makes a medically mortal body immortal. It makes the viewer see beauty in ugliness – the beauty of being different, the beauty of being a human being with disabilities.²⁷

²⁷ <https://mocak.pl/medycyna-w-sztuce> (dostęp 24.02.2020)

Film and photography often use the image of people with skin diseases. Especially futuristic visions of the world after the cataclysm which requires the participation of actors with albinism that can be seen in Matrix for example – the twins, servants of the Merovingian. They are figures in silvery-white robes, ghosts who penetrate the walls as if the sick skin stripped them of their flesh. Merovingian and his servants are negative characters, their appearance suggestively alienates the viewer from their character and cause their scary, inhuman perception. These characters as the characters in the Altar of St. Mary's Church by Wit Stoss have an affinity with hell because the story itself is based on the biblical context – there are references to both the New and the Old Testament. Where the figure of Merovingian himself finds his archetype in Hades or Lucifer.²⁸

In George Miller's "Madmax" a form of vitiligo affects the figure of eternal Joe – again he is a negative tyrant... again, the different appearance is to cause fear of this character and perhaps even the struggle for the future – sometimes chaos, brute force and psychopathic leaders.²⁹

How different in perception are the dreamlike characters appearing for example in the painting "Orlando". Actress Tilda Swinton with her alabaster body, is reminiscent of people suffering from albinism which is a certain form of vitiligo that affects the entire body – perhaps the disturbing appearance is a justification for the androgenic and in a sense immortal character which she embodies. A character who is first a man and at the end of his life becomes a woman, a character who changes not only in the physical but also in the psychological context. A figure that does not fit into the times in which she lives, she is like a ghost that flies over time.

The same context of ghost people is evoked by Yulia Tait's photographs from the series "Porcelain Beauty". The barriers of gender, race and age were made up of all relatives even those who were paradoxically equated. A similar appearance takes the role of a uniform. In the case of Tait's photos, it is a ticket to an esoteric

²⁸ http://www.wylfing.net/essays/matrix_revolutions_pl.html#clubhel (dostęp 19.02.2020)

²⁹ <https://film.org.pl/kmf/felieton-kmf/religia-i-kobiety-na-drodze-gniewu-67072/> (dostęp: 21.03.2020)

existence. There is a feeling of isolation of these affected by a different country as are others who are affected by the other world. It is also for the change of attention to people of a different appearance that stigmatizes them. The difference is also shown as a subtle palate of almost transparent, alabaster sub-value.³⁰

In Vinicius Terranova's photographs from the series "Rare Flowers", two girls – twins with Negro features but with completely white and therefore more delicate skin than their counterparts – suffer from albinism. Nevertheless, they attract the eye with their subtle and gentle charm of porcelain dolls. Lara and Mara Bawar became the faces of advertisements for giants of the fashion industry such as: Nike, Insanis and Bazaar Kids.³¹ It turns out that the appearance of people with dermatological diseases on the body can be attractive nowadays. Perhaps this is a controversial thesis but it seen as plausible to me if we look at fashion shows or advertising photography. Perhaps we are witnessing a slow departure from the classically understood concept of beauty in mass culture.

This is further more evidenced by Winni Harlow, a character from famous image campaigns and fashion shows with pronounced symptoms of vitiligo. Her skin is a departure from the canon of beauty of white or black models. Winni's body is a filiation of a white and black woman but it is also a symptom of an illness. Until a few years ago, it would be impossible for her to take part in any photo session without masking with makeup. Currently, her original beauty breaks the aesthetic norms of pop culture. It can also be a harbinger of a general tendency to accept the individualism of one's own image and not the universalism prescribed by the despotic canon.³² Even if it's the result of the constant need to carry out aesthetic experiments in the fashion industry – it is sociologically positive. The character description of Winni Harlow is an explication of a broader trend that has recently

³⁰ <https://www.yuliataitsphoto.com/porcelain-beauty-2017> (dostęp 26.02.2020)

³¹ <https://hiro.pl/poznajcie-11-letnie-albinoski-ktore-robia-furore-w-swiecie-mody/> (dostęp 25.02.2020)

³² <https://fashionweekdaily.com/winnie-harlow-model-interview/> (dostęp 27.02.2020)

appeared in fashion photography. There are several models with vitiligo today: Shahad Salman, Chantalle Brown and Kasia Smutniak. Vitiligo does not prevent them from taking up work on the contrary they eagerly display the pathologically changed skin which is now “a kind of a visual attraction”. It is nature turned into an original tattoo artist.

Diandra Forrest – an African-American woman suffering from albinism from birth just like Shaun Ross, Breanny Rice or Ruby Vizcarra are all faces from fashion shows and photoshoots for the press. I really do think that we are witnessing a change in the social perception of people with various skin diseases although there probably is still much to be done in the field.

It is possible that the increasing population of people with skin diseases is building a wider need to accept the changed appearance. Such cultural phenomena can of course also be associated with the search for the exceptional aesthetic experiences achieved while viewing specific, pathologically changed bodies which perhaps is a parallel to the search for monstrous experiences straight from the nineteenth century and the so-called “circus of curiosities”.

However, nowadays the “different” or “other” successfully fights for acceptance, showing society its weaknesses.³³ The work of the model Melanie Gaydos who suffers from a rare genetic disease is a phenomenon: hypohydrotic ectodermal dysplasia manifests through strong deformations of the face, teeth, nails, lack of hair follicles etc...

One might wonder – what ethical, moral and aesthetic overtones may or may not become of exposing people with diseased skin(?). After all a person with skin changes is still a “peculiarity”, a kind of an oddity.

In the nineteenth century display of curiosities, the “elevation” of a person with a visible disability was used. In circus performances, it was often shown as a highly born member of the aristocracy or an intellectual, an artist with extraordinary talents.

³³ Monstruarium, Anna Wieczorkiewicz, Wydawnictwo: słowo/obraz terytoria /Gdańsk 1.01.2009

Its value was increased but in spite of everything such people could not function in the nineteenth century society of strict standards. People with disabilities were discriminated against and people with an aesthetically different appearance were also perceived as psychological deviations with tendency to commit crimes. External signs could then be a harbinger of changes in the psyche.³⁴ “Entering the stage” allows a disabled person to become extraordinary and the defect becomes a desirable feature that fills its owner with pride. An extraordinary body is an ambivalent body looking for a group of people who are identical to it and other than the so-called “normal”. Even when the roles change, the relationship remains the same: different in opposition to society because its specificity is defined by the community. It is the community that gives a particular stigma.³⁵ To counter this, a person with disabilities becomes spectacular. The shows fuel the imagination of the collective and scientific community. They allow to establish criteria for the perception of otherness in the historically changing structure of societies. If as designer Rick Owens says “The classic canon of beauty has long bored everyone” and we are looking for new aesthetic experiences. Let’s hope that they will provoke the society to accept every appearance also an appearance caused by diseases.³⁶ Acceptance of dissimilarity caused by the acquired disease process is the most difficult because it is often blocked by the thought of the possibility of infection especially as in the case of AD we often deal with open wounds on the skin. Often the ill person themselves isolates from the surrounding world due to a fear of confrontation.

This part of my paper was used to describe how art and artists present the image of a person suffering from skin pathology. As the approach to diseases affecting the

³⁴ Monstruarium. Anna Wiczorkiewicz. Wydawnictwo: słowo/obraz terytoria /Gdańsk 1.01.2009

³⁵ ibidem,

*szczegółowo na ten temat opisuję w Rozdziale 3, pracy

³⁶ <https://kobieta.onet.pl/moda/melanie-gaydos-z-rzadka-choroba-genetyczna-podbija-swiat-mody/jccc5ec>
http://glamki.se.pl/news/z-zycia-gwiazd/melanie-gaydos-zawsze-chcialam-byc-modelka-choroba-genetyczna-nie-przeszkoda,67_13897.html (dostęp : 21.12.2019)

appearance of a person has changed over the centuries and how it can affect the mental condition of the patient. It serves as a rough sketch which shows the patient's situation from various perspectives: medical, psychological, sociological, anthropological and artistic.

Part III.

Design assumptions

.... " With her delicate hands, she picked up the hideous nettles. They burned like fire, great blisters covered her hands and arms, but she endured everything willingly to save her brothers. She trampled every nettle with her bare feet and weaved green fibers. "...

Hans Christian Andersen

quote from the fairy tale "Wild Swans"

I defined the needs of children with atopic dermatitis on the basis of environmental research conducted among parents of children with atopic dermatitis. In order to create the design assumptions, I also used widely available medical literature. In the field of materials science, I also collaborated with the Institute of Natural Fibers and Medicinal Plants from Poznań. To the needs of the collection, the Institute has prepared a study on the indicated plant raw materials for the production of clothes for children with atopic dermatitis.

The parents associated in the Polish Society of Atopic Diseases, indicated the difficulties in choosing clothes for children. The problem may be related to the composition of the raw materials used in children's clothing.

Children with atopic diseases usually suffer from allergic reactions to synthetic fibers - especially polyester ones. Diseased skin is irritated by stiff materials and seams, some paints and bleaches cause the disease to relapse.

Occasionally, medical dressing garments are used. The parents also emphasised particular difficulties in choosing clothes for colder days due to the high proportion of synthetic fibers in the warm children's clothing.

Chapter III. 1

Appearance of clothes intended / dedicated to children with atopic dermatitis

Currently, children with atopic dermatitis use specialised clothing - dressings, i.e. clothing that supports the dressings and protects the skin from the contact with clothes. These clothes are only naturally white (unbleached) T-shirts, leggings, socks and stockings for younger children. They are made of highly stretchy materials based on cotton and viscose. This is simply an underwear sticking to the body. These are clothes that also play the role of wet dressings, meaning this is the specialist medical clothing with the aesthetics referring to minimalism. For example, Comifast TM Easywrap TM from Synergy Health. Derma Silk offers clothes in a similar style and for a similar purpose, made of silk. Nelko Atopic is a naturally white (undyed and unbleached) clothing mainly for babies and underwear for older children, made of organic cotton and bamboo fibers. Currently, there are many companies producing this type of clothing. All available specialist outfits are always based on the form of a classic blouse, leggings or jumpsuits for younger children and always made of non-dyed materials (white or ecru). They are also intended for the periods of disease worsening when they can be used as wet or dry dressings.

However, there are no specially addressed clothes for older children in the preschool or school age, dedicated for the time of disease remission.

While there are organic cotton clothes available for the youngest children on the market - infants, clothes for the older group already have various admixtures of synthetic fibers which makes organic cotton, especially not chemically dyed with paints, often containing substances harmful to health, being less and less common.

There are no special all-day clothing for sick children, taking into account their need for airy clothes, made of natural materials, ensuring comfort and satisfying the need for various aesthetic experiences resulting from textures, colours and compositions. There are no clothes that combine the comfort of wearing specialist clothes with affirmation and the need to express oneself with the outfit. My task here will not be to treat the disease, because this is what medics, therapists and pharmaceutical companies do, but I will only try to positively improve the quality of life for children with AD.

I will propose the collection of clothes diversified in terms of design and aesthetics, with specially selected materials, colouring and finishing supporting the requirements of children suffering from atopic dermatitis.

Chapter III. 2

Choice of style - an overview of children's fashion trends, market segmentation, history of children's clothing...

The 20th century provided the development of broadly understood design for children - special furniture, toys, decorative fabrics, and clothes were created.

The particular attention is drawn to the childhood as a time of human development and maturation towards the adulthood. Designers and psychologists are particularly interested in the first stages of childhood. Scientists provide evidence of the significant influence of experiences from the first years of life on the later behaviour of an adult human being. Cognitive play is essential for the development of a young person.

Beneficial influence of clothes on the child's psyche - the idea of cloth - toy.

The act of wearing of clothes by children with atopic dermatitis is often associated with discomfort for damaged skin. In addition, there is a fear of allergic reactions, which may be caused by the wrong composition of the material or the dyes used.

Therefore, it seems to be very important in the design process to encourage children to wear clothing. The process of dressing and the outfit itself can be a form of creative play. I would like to make the child interact with his clothes and become a creator for a moment. Therefore, there are moving elements, applications placed independently in the selected place, the possibility of free compilation of the collection's assortment and sometimes, the possibility of dyeing clothes on your own.

Spectacular or masking outfit?

Another question whether the clothes for a sick child should be original or masking, allowing them to blend into the crowd and not standing out. On the one hand, we struggle with the need to be noticed and distinguished while on the other hand, with the need to assimilate with a group of peers. Conformity and clothing similar to the clothes of the peer group helps to fuse with it. However, fighting the prejudices of the environment often requires a spectacular entry on the stage. The exposure stimulates the imagination and enhances the assimilation processes of people with a visible stigma (caused by dermatoses). Deficit can become an attractive asset and an effective costume can become an armor protecting the delicate mental interior from the external world. We can look for our own nonconformist path, building the communication with the world based on self-esteem. Of course, the inner need to be noticed or the need to assimilate depends on the age group of the children. In the bibliographic material, we can find many concepts of division into the periods of a child's development.

In my work, I deal with the preschool children and the children at the threshold of school age, i.e. late childhood. Pre-school children are beginning to enjoy using their imagination and memory. They use a play as a cognitive method in relation to the surrounding world.³⁷They do not avoid competition both in house and in a group of peers. They eagerly pay attention to objects that are nice and special in their opinion

³⁷ A.I. Brzezińska, K. Appelt, Sz.Hejmanowski, S.Jabłoński,... "Portrety psychologiczne człowieka- szanse i zagrożenia rozwoju" - Cykl artykułów opublikowanych latach 2003-2004 w miesięczniku Remedium; str. 22-30.

(some of them acquire a magical character). When designing clothes for children with atopic dermatitis, I approach the topic holistically. Instead of designing only an assortment of clothes (pants, blouses, etc.), I want to take care of designing a brand of ecological clothes, dyed in natural dyes supporting the well-being of the skin. In order not to cause the afflicted children feeling isolated, such clothes should be directed to all recipients but dedicated in particular to those who struggle with atopic dermatitis and other dermatoses. Desirable by healthy people but designed for those suffering from skin ailments.

I believe that these should be designer clothes, exclusive a bit, in line with the social need to surround oneself in life with the aesthetic objects and support the aesthetic need for creativity - creating "a beautiful life".³⁸

For children with AD and their parents, the aspect of everyday life is also important. The collection should be enriched with very simple everyday clothing. During interviews and research conducted among the parents of children suffering from atopic dermatitis associated in the Polish Society of Atopic Diseases, I met with a great interest in my project. The parents indicated that it would be very helpful for them to create a clothing line for children with skin diseases.

When looking for clothes that will not be harmful to the children, it is difficult to navigate among the complicated raw material stores. Traditionally sewn clothes for children can be uncomfortable and their small users may be irritated by tags, thick seams inside clothes, sometimes also too stiff materials. Unfortunately, there is also a relatively low awareness of the substances used to dye clothes in the traditional clothing industry, although on the forum of Polish Society of Atopic Diseases' social media sites there are often entries about skin changes that are a consequence of, for example, skin contact with the clothes of dark, intense colours.

³⁸ 2 Bohdan Dziemidok „Główne kontrowersje estetyki współczesnej”, Wydawnictwo Naukowe PWN, Warszawa 2012

Chapter III.3

Selection of materials used in the collection in the context of design in harmony with ecology.

In the sphere of design assumptions, the aspect of ecological design will be crucial. Most studies on atopic dermatitis identify environmental pollution as one of the causes of the disease. That is why I think that it is particularly important to proceed holistically and to propose a collection created with care for the natural environment. In view of the harmfulness of the currently used materials and sewing accessories by the fashion industry (35% of the total microplastic that goes into the environment every year and 10% of greenhouse gas production³⁹), it seems even more important to me to create a collection in accordance with the circular economy. And a collection that does not harm the environment and can contribute to its protection, for example by increasing the number of new plants and trees potted. I also attach great importance to the locality of production - most of the materials and accessories I select are manufactured in Poland.

Starting from the selection of materials, threads, buttons, sewing accessories and ending with dyeing and confectioning - the whole thing is designed so that the final product, i.e. children's clothing, becomes a 100% biodegradable thing. Only plant materials are used in the production of clothes, so that the collection is 100% "vegan". Appealing to nature and its unforced beauty can also have a cleansing effect on the human psyche thanks to its aesthetic advantages. The choice of natural materials for the design of the collection is also dictated by the results of research conducted among parents of the children suffering from atopic dermatitis. Most children are sensitive to polyester fibers and other synthetic materials.

For sewing the collection, I use cottonised linen, organic cotton, viscose and a fabric made of flax, nettle, cotton and hemp, designed for children with atopic dermatitis.

³⁹ „Przemysł tekstylny a środowisko” – artykuł opublikowany przez Danutę Łukasińską na łamach www.ekopotencjal.pl (dostęp 16.11.21)

I chose flax because of the locality of production, and also because of the beneficial effect of its fibers when in contact with the body. Cottonised linen fibers are highly hygroscopic and allow good ventilation - which is extremely important for people with atopic dermatitis. They provide comfort of use and beneficial effects through bioactivity for the skin and showing bacteriostatic properties. Organic cotton is traditionally recommended for people with skin conditions as a hygroscopic and highly air-permeable fiber. Organic cotton is a product of extensive agriculture and its cultivation does not use pesticides or chemical insecticides, therefore its fibers do not contain harmful and acrid chemicals. (It is an ecological product made with care for the employee.) Viscose is an airy material that easily absorbs the excess water. It is also a plant product, although chemical compounds are used in its production. In the case of lyocel and tencel, the technological process is ecological due to the fact that no corrosive substances are used to dissolve cellulose. The materials obtained from cellulose are 100% biodegradable.

Another material that I use is cotton fiber material (flax, hemp and nettle. The material was produced in cooperation with Professor Małgorzata Zimniewska, Ph.D of the Institute of Natural Fibers and Medicinal Plants in Poznań.

The fabric produced has pro-health properties. The bioactive activity is presented by the flax, hemp and nettle fibers. The yarn used was not subjected to any chemical softening processes. Its roughness resulting from the properties of the fibers used constituted a problem during the project evaluation.

The haptic properties of the materials used are key to me in the design process. The material should be soft and pleasant to touch.

At the beginning of the material design process, both knitted and woven fabrics were created but we left knitted fabrics quite quickly due to their low stability and perceptible roughness. The yarn includes 50% organic cotton, 25% nettle, 25% hemp.

The resulting material (fabric) of hemp, nettle, cotton and linen was used by me in the collection for children with atopic dermatitis due to its special and unique

properties. The additional softening of the fabric by eliminating its roughness in the mechanical process, however, it is only manual currently and thus, it can be used in individual models.

Textile plants used in the production of materials used in the collection.

Hemp nettle (*Urtica cannabina*) is originated from the central and south-west Asia, from the Middle Ages to the 17th century, it was widely used for textiles and is now rarely used in the textile industry. As a herbal plant, nettle (*Urtica dioica*, *Urtica cannabina*) has a pro-health and bioactive effect due to the content of vitamins, bioelements, tannins, silica ... As a herbal plant, it has antihistamine, antioxidant and antibacterial properties, useful in healing wounds.⁴⁰

Nettle fiber it is highly hygroscopic (the water absorption capacity is higher than the one of cotton). Technological problems during the processing of fibers do not allow for the production of soft yarns with a low linear weight, therefore it is processed in blends with the addition of organic cotton. Currently, there are no industrial, controlled crops of stinging nettle in Europe. Feral plants appear in the south and central Europe, also in Poland.

Hemp (*Cannabis sativa*) comes from Asia, it contains, among other things, phenolic acids which determine the bioactivity of its fibers. Due to the hardness of the fibers, the materials made of its fibers are durable and wear-resistant but require special technological treatment. Like linen, it is used in many industries, from pharmaceutical to construction and even the automotive industry. Textile materials made of hemp fibers are characterised by high sorption, airiness, durability and relatively high lightness. It is a hardy and fast-growing plant, cultivated in Poland.

Common flax (*Linum usitatissimum*) - as the Latin name suggests "usitatissimum" - "very useful" - the grain is used in the food and pharmaceutical industries; fiber in the clothing industry, construction, chaff in the construction and for the production of paper, the pomace is processed into fodder. The plant known and used by man for

⁴⁰ Marzena Pieszak, Przemysław Mikołajczak „Właściwości lecznicze pokrzywy zwyczajnej (*Urtica dioica* L.) (The healing properties of stinging nettle (*Urtica dioica* L.))”, *Postępy Fitoterapii* 4/2010 s.199-204, e-ISSN 1731-2477

several thousand years comes from the Middle East. It contains enzymes, linoleic acid, unsaturated fatty acids, cyanogenic glycosides, enzymes, vitamins, phytosterols...⁴¹ The materials made of fibers are highly hygroscopic, airy and thanks to the structure of the fibers have "a cooling" effect. It appears as a cultivated plant in the temperate climate zone.

Cotton (*Gossypium*) is a plant used as a fiber for several thousand years, it comes from the tropical zone and grows best at a temperature of 20-21 C. Cultivation is possible virtually all over the world, except in the polar regions. Due to its properties, it is one of the most popular plant fibers in the industry. Cultivation is labor-intensive and uses a lot of water. The longest fibers are used to produce the best textile materials (on average, they are 2 to 4 cm long). The materials are soft with a pleasant grip, delicate, airy and hygroscopic.

Cotton is also used in the food and pharmaceutical industries (oil).

Chapter III. 4

Colours and dyes used in the collection.

I used vegetable paints for dyeing. I conducted research on the colour obtained from plants without the use of catalysts and mortars in the form of harmful metal salts (eg iron, copper or aluminum sulphates...⁴²).

At the beginning, I focused on all herbal plants showing a documented, pro-health effect on the skin. Herb plants, however, were eliminated by me from further research due to the possibility of allergenic effects of pollen contained in their flowers. From herbaceous plants, only nettle was used as a leaf in further work. After

⁴¹ Dorota Nowak- Idzikowska „ Len zwyczajny. Najbardziej przydatna roślina świata” Twój Farmaceuta, 2017, nr12, <https://www.medicover.pl/o-zdrowiu/len-zwyczajny-najbardziej-przydatna-roslina-swiata,5009,n,2669>, dostęp: 22.01.2022

⁴² Aleksandra Bystry „Dzikie barwy” ; Wydawca: Dzikie Barwy, Łódź 2019

consultation with the specialists in the field of dermatology and nettle was eliminated from further work due to the possibility of undesirable reactions.

I focused on dyes obtained mainly from trees, their bark, leaves, infructescence, cones ... These are ingredients widely used in herbalism in the treatment of skin diseases of various etiologies.⁴³

I use dyes described in the bibliography on dyeing and those with which I am not familiar with while reading. The key in the selection of dye plants, apart from their aesthetic values, were also their medicinal aspects. That is why in my work I used almost exclusively plants from the native (occurring in Poland and Central Europe) trees and shrubs showing healing, bactericidal and bacteriostatic effects for the skin. The resulting palette is limited to earth tones, shades of umber, ochre, a wide range of beige, brown, yellow and subdued greens. There are no blues or highly saturated chromatic colours in it.

I sometimes use intense yellow, some of its shades with the aid of alum (aluminum potassium sulphate dodecahydrate - a naturally occurring mineral - used since antiquity; it is also used as a pharmaceutical). The colour obtained in this way however, is not used in direct contact with the skin due to the possible excessive drying of the epidermis due to the action of the alum.

Yellow, however, also has a pejorative meaning, which I already wrote about in this work. In my projects, however, I would like to avoid negative connotations and use the potential of yellow as a life-giving colour, associated with the Sun. It is also another reason that the collection designed with sick children in mind should also be directed to healthy children and parents with an ecological lifestyle, which is important here for yellow to lose its stigma.

I opted for a palette of bright, warm colours that evoke associations with sunlight. In this way, I use the suggestive influence of colours on the psyche of a sick child. This palette will be completed by browns and greens as well as delicate shades of pink and orange.

⁴³ Ilona Kaczmarczyk- Sedlak, Arkadiusz Ciołkowski „Zioła w medycynie - choroby skóry, włosów i paznokci” tom 1 i 2, PZWL Wydawnictwo Lekarskie, Warszawa 2020

The obtained tinctures were also tested for colour loss during washing.

I examined the trees and shrubs found in Poland, used simultaneously in herbal medicine and for dyeing plant fibers.

For further research, I chose mainly the leaves and bark of trees and shrubs, showing pro-health properties and having the advantages of dying plants:

Elderberry (*sambucus nigra*), contains flavonoid compounds, small amounts of cyanic glycoside⁴⁴ (*sambunigrin* decomposes quite quickly during drying and cooking, however), has an analgesic, antipruritic and antispasmodic effect,⁴⁵ it is also used in skin rashes, eczema, conjunctivitis, ulcer treatment, burns.⁴⁶ As healing substances, mainly flowers, fruits, leaves, bark ...⁴⁷ I use leaves that give delicate shades of colour. greenery. (The shade of green obtained from elderberry leaves is a colour that is relatively difficult to obtain without the aid of metal compounds.)

Papillary birch (*betula pendula*), contains saponins, flavonoids, organic acids, and resins. It has a disinfectant and antifungal effect, supports wound healing.⁴⁸ For dyeing I use the leaf and the bark. Each of the raw materials gives different colours. The leaf gives off dyes from lime (greenish) yellow through lemon yellow, then warm, sunny (yellow-orange), to the colour of old gold with a slightly salmon shade.

The bark stain the fibers on salmon pink, beige, pearl pink and cinnamon.

⁴⁴ Marian Nowiński „Dzieje upraw i roślin leczniczych” Państwowe Wydawnictwo Rolnicze i Leśne Warszawa 1983 str 52

⁴⁵ R. L. Johnson, S. Foster, ...”Przewodnik po ziołach leczniczych, najbardziej skuteczne rośliny lecznicze świata”; National Geographic Washington, D.C. 2010

⁴⁶ Maria Polakowska, „Leśne rośliny zielarskie” wydanie IV Państwowe Wydawnictwa Rolnicze i Leśne, Warszawa 1987, str 93-94

⁴⁷ https://pl.wikipedia.org/wiki/Bez_czarny dostęp 22.01.2021

⁴⁸ Maria Polakowska, „Leśne rośliny zielarskie” wydanie IV Państwowe Wydawnictwa Rolnicze i Leśne, Warszawa 1987, str 78

Beech (*fagus sylvatica*) - I used a leaf for colouring, which has anti-inflammatory and antiallergic, calming and disinfecting properties, among others.⁴⁹ The leaf decoction gives colours from warm, delicate salmon to delicate shades of roasted sienna.

Onion (*allium cepa*) - contains, among others: sulfides, volatile compounds, saponins, flavonoids ... It has antibacterial, antiviral, antioxidant, antiallergic properties, it also has the ability to stimulate the body's immune system.⁵⁰ I used onion husk for dyeing. Onion gives a wide spectrum of various shades of orange, up to deep shades of brown.

Bird cherry (*prunus avium*), ⁵¹a flower recommended by the herbal bibliography especially for people with atopic dermatitis. For dyeing, I used bark and leaves.

The bark gives a beige colour with a salmon, peach shade to the shades of roasted sienna. The leaf, depending on the season in which it is harvested and the area of its harvest, produces tinctures from light, pastel, slightly beige, through salmon yellow to intense yellows that can be achieved with the addition of a reaction catalyst in the form of alum.

Pedunculate oak (*quercus robur* L. ...), its bark and leaves contain tannins and tannins, which translates into anti-inflammatory and bacteriostatic effects and supports the treatment of difficult-to-heal wounds.⁵²

Oak plaster is made of several shades of beige with varying degrees of saturation. Leaves, acorns and bark are used for colouring. Oak, rich in natural tannins, is one of the dyes that are quite resistant to washing. The perception of a warm, beige-brown colour enhances the feeling of being wrapped and safe.

⁴⁹ <http://gramzdrowia.pl/dr-henryk-rozanski/fitoterapia-ziololecznictwo-ziola-drzewa-krzewy/buk-zwyczajny-fagus-silvatica-fagaceae.html> dostęp 20.01.2022

⁵⁰ https://pl.wikipedia.org/wiki/Cebula_zwyczajna dostęp 20.01.2021

⁵¹ <https://biotechnologia.pl/farmacja/glikozydy-cyjanogenne-bo-wszystko-jest-i-nic-nie-jest-trucizna,14889>, dostęp: 02.05.2021

⁵² Maria Polakowska, „Leśne rośliny zielarskie” wydanie IV Państwowe Wydawnictwa Rolnicze i Leśne, Warszawa 1987, str 89

Red oak, the pro-health effect is quite similar to the pedunculate oak. I mainly used acorns for colouring - the colours are pink beige and cocoa browns.

Wild apple tree: for dyeing, I used leaves that contain, among others, rutin, phenolic compounds and tannins. Therefore, they show anti-haemorrhagic, antibacterial and anti-inflammatory properties.⁵³ The colours obtained range from apricot to cool pink.

Common ash (*fraxinus excelsior* L.) The leaves contain inosit, tannins, volatile oil.⁵⁴ I use the leaves for dyeing - they colour several shades of rather warm, yellowish greens depending on the harvest time.⁵⁵

Hazel (*corylus avellana* L.) The leaves contain ingredients that show an effect anti-inflammatory and astringent, used in folk medicine against purulent wounds and ulcers.⁵⁶ When used for dyeing, they reflect the colours from delicate ecru through shades of beige to a more saturated pink-beige colour.

Walnut (*Juglans regia* L.) Leaves, fruit and bark have a healing effect. They contain volatile oil, juglone, tannins, large amounts of vitamin C.⁵⁷ The leaves and fruit give colours from ugly through olive deep green to dark shades of cool brown.

Black walnut (*juglans nigra*), contains juglone with antiparasitic effect, shells have strong antifungal activity, contains tannins and natural iodine.⁵⁸ In Poland recognized as *ken ofit* (grows wild in North America). I use nut shells for colouring - they are brown, cool shades of roasted sienna.

⁵³ Maria Polakowska, „Leśne rośliny zielarskie” wydanie IV Państwowe Wydawnictwa Rolnicze i Leśne, Warszawa 1987, str 22-24

⁵⁴ Marian Nowiński „Dzieje upraw i roślin leczniczych” Państwowe Wydawnictwo Rolnicze i leśne, wydanie 2, Warszawa 1983, str 51-52

⁵⁵ Katarzyna Stasińska „Farbowane tekstylia we wczesnośredniowiecznej Polsce” str 96

⁵⁶ <https://sekrety-zdrowia.org/leszczyna-wlasciwosci-przepisy/> dostęp 21.01.2022

⁵⁷ Marian Nowiński „Dzieje upraw i roślin leczniczych” Państwowe Wydawnictwo Rolnicze i leśne, wydanie 2, Warszawa 1983, str 27-28

⁵⁸ <https://www.ekologia.pl/zdrowie/witaminy-i-suplementy/orzech-czarny-wlasciwosci-dzialanie-i-zastosowanie-orzecha-czarnego,24020.html> , dostęp 15.02.2022

Black alder (*lansu glutinosa*) rich in tannins, resins and essential oils with antiseptic, astringent and antipyretic properties.⁵⁹ The fibers are dyed yellow-gray of varying intensity.

Chapter III.5

The division of the styling, ergonomics and construction of the clothes allowing the maximum range of motion with minimal movement of the clothes on the body.

Finding the right proportions and dividing the stylings has an impact on the appearance of structural cuts. It overlaps with the shape and arrangement of colour spots. The arrangement of the space around the body also influences the arrangement of structural cuts. The conducted research and medical literature indicate areas on the skin of sick children which are particularly often affected by lesions. Obviously, it can also be seen that the disease has a very individual course but common features can be distinguished. For me, these will be places where cuts and seams should not be present. To the needs of the collection of clothing for children with atopic dermatitis, I decided to use designs that do not have sewing under the armpit, provide a full range of shoulder movement and prevent the rest of the clothing from moving. Clothes moving on the body is also prevented by cuts or holes in the sleeves, a thumb guided through them prevents the sleeve from being pulled up. I have researched various possibilities of designing solutions at the wrists that will allow the sleeve to stay in one position. A priority in the design of thumb holes was to provide a choice when using such a solution.

Leggings used in the collection as bottom layer clothing also have the option of being hooked on the foot so that they do not wrinkle and do not change place while the child is moving. Leggings and pants do not have an internal seam of the leg.

Children very often rub the inner side of the thighs when walking, avoiding of this structural cut should contribute to the prevention of injuries.

⁵⁹ Maria Polakowska, „Leśne rośliny zielarskie” wydanie IV Państwowe Wydawnictwa Rolnicze i Leśne, Warszawa 1987, str 129

In the construction of trousers, I also often resign from the cut in the crotch, increasing the freedom and range of motion. A frequent procedure supporting ergonomics in this collection means also combining fabrics with knitted fabrics.

Here, fabrics provide the possibility of strapping pocket elements, fasteners ... and prevent the wear-sensitive areas, such as knees, from rubbing too quickly.

Knitted fabrics allow for the increased freedom and range of motion. In the collection of children's all-day clothes, I use constructions applied in the sports clothing and fabrics that enable the confectioning of traditional forms.

Chapter III.6

Styling composition and its influence on the making of clothes.

The composition of the stylings and their proportions was influenced by the selection of structural cuts and the appearance of properly designed seams. The division of the stylings cooperates here and has an impact on the methods of making clothes.

Parents of children suffering from atopic dermatitis pointed out the inconvenience caused by the internal and stiff sutures. The best solution in the confectioning of children's clothes with sensitive skin are seamless clothes or clothes with seams sewn on the outside. During the research work, I was unable to find the possibility of producing seamless clothes from linen yarn.

Due to technical limitations, in my research work, I focused on the possibility of packaging from knitted fabrics and fabrics.

The entire range of garments has no internal seams and the left side of the garment is completely smooth. When designing, I also put a lot of emphasis on technological nodes so as to avoid layers of overlapping materials; hence the resignation from zippers, inside pockets ...

The collection includes knitted, seamless accessories in the form of necklines and sleeves.

Each model has different solutions for joining parts of the patterns.

These are flat seams, trimmed, sewn outside clothes, trimmed with tapes. They become a structural element and harmonize with the division of the stylings, becoming decorative themes that affect the aesthetics of the model. I choose delicate and subtle solutions.

Some of the seams make it possible to sew in functional ventilation panels that carry excess heat outside the garment and protect the child from overheating. The buttons selected for the collection are wooden and often hidden in a hidden clasp to avoid scratching the skin on the button.

The synthetic elastics that I use occasionally can be quickly removed (before composting the clothes). Elastic bands made of natural rubber have been used for many clothes. Thanks to innovative treatments, the tunnels with rubber have been led outside the clothes and make it possible to precisely fit - therefore they do not put pressure on sensitive places.

Chapter III.7

Decorative themes, prints, applications....

When designing the collection, I was inspired by the fairy tale of H. Ch. Andersen " Wild Swans". The collection therefore includes toys: swans, crowns, prints of plants and leaves. The toys can be attached and arranged in different sequences on the clothes. They are also an added attraction for children who interact with them emotionally. They look after the swan, which becomes their cuddly and toy, which can be attached to special pockets and carried everywhere with them.

On fabrics and knitwear used in children's clothes, prints in the form of plant prints, mainly leaves, appear. This is another reference to the aesthetics flowing from nature. As a result, I decided to only make a print of the leaf which is quite accurate with botanical precision.

In boys' clothes, there is a knight - soldier theme - detachable epaulets, reinforcements on the knees imitating fragments of knightly armor.

Prototypes of soft, flexible buttons were also created for the collection. However, they were not used in the collection due to the long drying time after getting wet. Functional considerations are crucial for me when conducting research and design work on a collection of clothes for children with atopic dermatitis. So I do not hesitate to give up many ideas, which, despite the attractive visual form and haptic advantages, could hinder everyday functioning.

Part IV

Collection of children's clothing.

Different senses are involved in the perception of the collection for children with atopic dermatitis, in line with the synesthetic design. The softness and diversity of textures of materials use the sense of touch, the smell of natural, plant-dyed fabrics and knitted fabrics activates the sense of smell, the form and colours of clothes, the sense of sight and aesthetic feelings, and emotions and creativity are triggered by the toys used in the collection.

In addition, the collection encourages pro-ecological activity because it is entirely made of plants. I also paid special attention to the locality of production so that most of the raw materials used to produce children's clothes come from Poland or possibly Europe.

Chapter IV.1

Designs, the concept of the collection.

The stylings are multi-layered. Static themes referencing the character center. The bottom layer of linen and cotton knitted fabrics is close to the body. The clothing is devoid of seams under the armpit, in the crotch and other sensitive areas. Sewing lines support compositional divisions and patterns of colour spots. The clothes are dyed with natural dyes obtained from local trees and shrubs with healing properties

for the skin. The clothes in the collection are also in the natural colours of linen, cotton or hemp fibers, and are sometimes subject to delicate bleaching. The first layer of clothing is made of soft and breathable low-grammage fabrics. Initially, the collection was intended for younger preschool children. However, mostly parents of preschool children volunteered to cooperate. Therefore, during the implementation, I gave up the forms of overalls and bodysuits, unsuitable for children of this age due to limiting independence. The second layer is an assortment of clothes made of materials with a slightly higher grammage. They can be dyed after confectioning, for example using "tie-dye" or "shibori" techniques. Sometimes non-dyed materials (raw) are used.

Sometimes there is also a third layer. The second and third layers contain printed clothes. There is an assortment of linen knitted fabrics and clothing with toys.

Chapter IV. 2

Photos of stylings.

Photo session by photographer Dr. Marzena Kolarz.

Little models: Tosia age 3, Valeria Ołradnova "Valerika" age 6, Artur Yarmolenko age 6.

Profile 6: Posed: Miłosz (7 years old), Borys (3.5 years old), the author is the photos of their mother, Joanna.

Silhouette 9: posed Amelia; the author of the photo is mother: Mrs. Magda.

Silhouette 11: posed Lenka; the author of the photo is mother: Mrs. Anna.

Description of the realized collection silhouettes:

SILHOUETTE NO 1:

100% linen jersey blouse with a 100% viscose frill. Coloring: birch bark, bird cherry bark, bird cherry leaf.

100% linen trousers with 100% cotton welts. Coloring: ash leaves, walnut shell, bird cherry leaves, elderberry leaf. Rubber: caoutchouc tape.

A bag with a swan, made of fabrics: hemp, nettle, cotton and linen. Coloring elderberry leaf and oak bark,

Gaiters - calf and forearm overlays - made of 100% linen knitwear; dyed ash leaf and walnut leaf.

SILHOUETTE NO 2:

Cotton knit dress (organic cotton, jersey) 100%, linen jersey 100% linen, ruffles made of cotton muslin and 100% viscose. Coloring, bird cherry bark, onion shell, beech leaves. Metal snap fastener with the possibility of ripping off and recovering recyclable material before composting.

Ski leggings: 100% jersey linen, dyed with birch leaves.

Rubber rubber.

(Was tested in the second round of research.)

SILHOUETTE NO 3

Dungarees made of hemp, nettle, cotton and linen fabric, the coordinate is interlock cotton knit (100% organic cotton). Dyed with onion husk. Wooden buttons are an accessory here. The parts of the pattern are connected with a cotton mesh binding tape - it is also a functional ventilation panel.

Blouse made of 100% organic interlock cotton and mesh-type openwork fabric, which acts as a ventilation panel. Dyed with onion husk.

SILHOUETTE NO 4 (older girl: Valerika)

100% linen jersey dress with knitted accessories made of cotton yarn (100% organic cotton). Bottom finished with 100% viscose fabric. Coloring: wild apple leaf, birch leaf.

Finish: onion husk, beech leaf, bird cherry.

Ski leggings: 100% jersey linen, dyed with birch leaves.

natural rubber.

Gaiters - overlays, calf and forearm protectors - made of knitted 100% linen; dyed ash leaf and walnut leaf.

SILHOUETTE NO 5 (boy, Artur):

Blouse made of cotton knit (100% organic cotton), jersey type and linen knit 100% jersey. Finish: ribbing 100% cotton. Coloring: walnut shells, walnut leaf, bird cherry bark, oak bark, red cabbage.

Trousers: hemp, nettle, cotton and linen fabric; coordinate cotton knit (100% organic cotton), interlock type; finishing: knitted cuffs made of 100% organic cotton. Dyed with oak bark.

Gaiters - overlays, calf and forearm protectors - made of 100% linen knitwear, dyed walnut shells.

(Was tested in the second round of research.)

SILHOUETTE NO 6 A and B:

A and B. Blouse made of linen jersey (100% linen), dyed with oak bark.

A. Sweatshirt with epaulets made of linen knit (100% linen), dyed with oak bark

B. Knitted linen blouse (100% linen), dyed with oak bark.

A. Pants: hemp, nettle, cotton and linen fabric; coordinate cotton knit (100% organic cotton), interlock type; finishing: welts made of 100% organic cotton. Dyed with black alder leaves, decorative elements: walnut leaf and walnut shell.

B. Trousers: hemp, nettle, cotton and linen fabric; coordinate cotton knit (100% organic cotton), interlock type; finishing: welts made of 100% organic cotton. Dyed with oak bark, decorative elements: walnut leaf and walnut shell.

(The A and B silhouettes were used by two boys in a clothing testing study for children with AD.)

SILHOUETTE NO 7:

Linen jersey blouse (100% linen), dyed with a decoction of elderberry leaves and walnut leaves.

Cardigan made of linen knit (100% linen), fastening made of metal press studs that can be detached before composting. Dyed in birch leaves.

Pants made of velor knitwear with a ventilation panel in the form of a stripe made of openwork knit, made of 100% organic cotton; dyed with black walnut shell. Finished with a cotton welt with a rubber band (natural rubber).

(Was tested in the second round of research)

SILHOUETTE NO 8:

Two-layer knitted linen sweater (100% linen) finished with cotton cuffs made of 100% organic cotton yarn. The bottom layer is dyed with a black cherry leaf, the top layer is natural linen and onion husk dyeing, which creates a shading effect (ombre).

Pants made of 100% linen fabric in a natural color.

One-side brushed knit skirt (100% organic cotton) - welt, 100% organic cotton, inside a rubber band. Coloring with leaves of the wild apple tree.

Gaiters - overlays, calf and forearm protectors - made of knitted 100% linen; dyed with ash leaves and walnut leaves.

(Was tested in the second round of research)

SILHOUETTE NO 9:

Tunic with a pocket and a swan made of linen knit (100% linen), hemp, nettle, cotton and linen tapes, linen tapes (100% linen). Coloring with onion husk.

Creative toy The Swan is made of velor cotton knit (100% organic cotton), cotton fibers were used to stuff the toy, a button at the crown made of shells, linen fabric was used for stiffening, and wooden buttons additionally keep the toy in a pocket.

Ski leggings: 100% jersey linen fabric dyed with birch leaves.

Blouse made of linen jersey (100% linen) and organic cotton (100%), dyed with bird cherry bark and beech leaves.

(The silhouette was used by one of the children in a clothing-testing study for children with AD)

SILHOUETTE NO 10:

Blouse made of linen jersey (100% linen) and organic cotton (100%) fabric dyed with bird cherry bark and onion husks. Finishing with a cotton rib made of organic cotton yarn (100%).

Skirt made of nettle, hemp, cotton and linen fabric in coordination with a cotton ribbing at the back, fitted with an elastic band fastened with buttons and a binding. Dyed with onion scales.

Gaiters - overlays, calf and forearm pads - made of 100% linen knitwear, dyed with ash leaves and walnut leaves.

Leggings: 100% jersey linen dyed with birch leaves.

SILHOUETTE NO 11:

Tunic with a pocket and a swan made of linen knit (100% linen), hemp, nettle, cotton and linen tapes, linen tapes (100% linen). Lightly bleached linen, other materials in natural colors. The tunic has many different possibilities to attach a toy.

The creative toy Swan is made of velor knitted cotton (100% organic cotton). Cotton fibers were used to stuff the toy, a button at the crown made of shells, a linen fabric was used to stiffen the toy, and additionally, wooden buttons keep the toy in a pocket.

Pants made of 100% linen fabric in a natural color. finished with a cotton welt made of organic cotton yarn (100%), they also have pockets for a movable toy.

Gaiters - overlays, calf and forearm pads - made of knitted 100% linen, dyed ash leaf and walnut leaf.

(The silhouette was used by one of the children during a study involving testing clothes by children with AD - additionally, the child still had a T-shirt and leggings.)

SILHOUETTE NO.12 (boy, Artur):

Knitted linen sweater (100% linen) finished with cotton cuffs made of 100% organic cotton yarn. the underside of the sleeve and the sides are made of two layers of linen knit with a lower basis weight. Natural linen, cuffs dyed with black walnut shell.

Trousers: hemp, nettle, cotton and linen fabric; coordinate cotton knit (100% organic cotton), interlock type; finishing: knitted ribbons 100% organic cotton, fitted with a synthetic elastic with holes and a wooden button fastening. The rubber band can be quickly removed before composting. Dyed with black walnut shell. The pants do not have an inside leg seam. Gaiters - overlays, calf and forearm protectors - made of 100% linen fabric and dyed walnut shells.

SILHOUETTE NO 13 (Valerika, girl):

Sweatshirt made of knitted organic cotton (100%), brushed on one side; finished with a knitted welt made of cotton yarn (100%). Coloring: walnut leaf, bird cherry leaf, ash leaf, bird cherry leaf, elderberry leaf.

100% linen trousers with 100% cotton welts. Coloring: ash leaves, walnut shell, bird cherry leaves, elderberry leaf. Rubber: caoutchouc tape.

Gaiters - overlays, calf and forearm pads - made of knitted 100% linen, dyed ash leaf and walnut leaf.

Swan bag: made of fabric: hemp, nettle, cotton. and linen. Coloring: elderberry leaf and oak bark.

SILHOUETTE NO 14:

Shirt with a print, made of linen fabric and fabric made of hemp, nettle, cotton and linen, sewing: 100% organic cotton fabric. Wooden buttons, tape 100% linen. Coloring beech leaf, walnut shell, bird cherry leaf with the addition of alum. This model also uses natural colors of linen and cotton (lining).

Pants made of 100% linen fabric in a natural color.

Gaiters - overlays, calf and forearm protectors - made of knitted 100% linen; Coloring: Ash Leaf and Walnut Leaf.

SILHOUETTE NO 15:

The dress with short sleeves is made of 100% linen fabric and 100% linen jersey. Fastened on the shoulders with sewn metal snaps. Dyed with hazel leaves with a shading effect.

Leggings: 100% jersey linen dyed with birch leaves.

Gaiters - overlays, calf and forearm protectors - made of knitted 100% linen; Coloring: Ash Leaf and Walnut Leaf.

The assortment of the collection can be freely combined with each other to create other, new silhouettes.

Part V

Description of the research.

Triangulation of the research allowed me to look at the design of the children's clothing collection for children with atopic dermatitis from a broader perspective.

I started with cognitive activities aimed at familiarizing myself with the patient's situation from the medical, psychological and sociological side. It was the first,

preparatory stage, in which I relied mainly on research conducted by specialists in particular fields.

The second stage is the study of the perception of people suffering from skin diseases by art and artists - it is a diverse view that changes over time, although such people are often treated in an iconic way. They are semantically associated with evil, the afterlife, and ghosts - even in modern culture it is often difficult to renounce this symbolism. This may stand in opposition to the consumer society's need to make everyday life aesthetic.⁶⁰ The third stage is examining the style of children's clothes and the appearance of specialist (medical) clothing for children with atopic dermatitis.

I examined materials suitable for the diseased skin and their availability.

For the needs of the collection, nettle, hemp, linen and cotton fabrics were produced. I explored the needs of the community of people suffering from AD and parents of children affected by the disease. These were talks, interviews and preliminary surveys. I used contacts with people associated with the Polish Society of Atopic Diseases and with contacts with non-members. Parents of sick children were interested in the project and indicated the need to design and produce special clothing for children suffering from atopic dermatitis.

On the basis of the conducted research, I was able to determine the design assumptions and put forward a hypothesis for further research.

The next cognitive research consisted in selecting colour plants that were also plants with a healing effect for the skin or would have antibacterial and antifungal properties.

In this way, I also started researching the aesthetics of the designed collection and its colours. The most intense and desired colour turned out to be yellow and its shades. However, the semiotics of yellow is twofold. In terms of history - dating back to the Middle Ages, it is a colour that marks people who were sick at that time, e.g. lepers. In later centuries also associated with anti-Semitism and people

⁶⁰ Bohdan Dziemidok „Główne kontrowersje estetyki współczesnej”, Wydawnictwo Naukowe PWN, Warszawa 2009; str 303

suffering from mental disorders. On the other hand, bile is also an association with spring, joy and life-giving energy, and I think it is a perception closer to contemporary society without prejudices. The conducted works on dyes obtained from herbal plants (by narrowing the research space to trees and shrubs) limited the colour palette to browns, beige, delicate pinks and greens. Further design work consisted in looking for the possibility of combining colours with each other to get the impression of multi-coloured clothes, which in the case of the children's collection seemed to be important to me.

Due to the selection of fibers and materials used in the collection - and it was dictated by medical recommendations - I focused on exploring the possibility of confectioning knitted fabrics and yard fabrics with external seams. I tested the aesthetics, durability and softness of the joints I made.

I tested the possibility of using a structure with increased range of motion and connecting knitted fabrics with fabrics. I tested the results of the design work empirically during qualitative research on users. I designed clothes for individual users of the testing group, selected from among people associated around the Polish Society of Atopic Diseases. Each child received a set consisting of the bottom layer: T-shirt and leggings and the top layer of the tunic (girls), sweater / sweatshirt and pants (boys). In the first round of qualitative research, I examined the needs of individual participants, and the clothes were designed and manufactured taking into account the specific needs of each child, because, for example, the places of skin lichenization are not always common, just like not every child has allergies to some of the dye plants. Here, it would probably be advisable to test: whether if you are allergic to, for example, birch pollen, you can be allergic to the dye from its bark or leaves. (?) - However, this is not the subject of my research. By proceeding with precaution in such cases, I gave up dyeing in plants potentially indicated as allergenic. Clothes without plaster were also tested, when the interview

in the initial questionnaire indicated several different allergic reactions to plant products (eg nuts and pollen) in the child.

Along with the set of clothes, the participants received a detailed description of the pro-health effects of dye plants used in the production of their clothes, the exact composition of each material with a description, and a recipe for the maintenance of the garment and its final disposal after use of the product.

The study also concerned the way of perceiving clothes with slightly different colours than commonly used. The appearance of clothes sewn only (without synthetic additives) from natural ingredients is specific and was also included in the questionnaire. The aim of the study was to verify the previously formulated hypothesis in the form of assumptions for the design of clothing collections for children with atopic dermatitis. Contact with the respondents was carried out using various research methods: two questionnaires (initial and final), interviews, photos and a description of the observations of children made by their parents. 20 people participated in the preliminary research on the needs of children and their parents - the research tool was an interview and talks.

Five children volunteered for further qualitative research in the first round. Two came from a large provincial city, three from smaller towns. In total, in the first round, the assortment consisting of 15 items of clothing was tested, which were used by children for a month. The material collected in this way allowed me to verify the hypotheses, narrow down the research area again and design new collection models. At this stage, a second qualitative, empirical study was conducted. This time, ready-made products - selected for subsequent respondents. A qualitative study was carried out, this time three children using an assortment of 10 items of clothing participated in it.

Research methods are survey, interview and observations (photos, videos).

The assumption is to triangulate the research and research methods used (cognitive research, research on the aesthetics of products, interviews with parents of children suffering from atopic dermatitis, talks with the president of the Polish Society of

Atopic Diseases, Mr. Hubert Godziątkowski, conversations and interviews with dermatologists, designing some models for specific requirements. focus group and subsequent, long-term testing of clothing in two series) can contribute to reducing the margin of errors.

The qualitative research I used is subjective,⁶¹ based on a small number of respondents, but allows for a detailed analysis of the product's operation and elimination of design imperfections. I had the opportunity to carefully observe and analyze the use of patterns designed for specific requirements. The idiographic method of the research specific to the humanities meant that the participants of the research were direct, the contact was individualized, there were spontaneous comments and suggestions about what was inspiring in the project work. The testers also submitted their ideas to improve the operation of the products, contributing to the final effect.

Chapter V.1

Survey for the users

After the first and second stage of the project, the respondents were presented with a questionnaire with a selection test (it was one of the research methods). This method refined the impressions of children and parents when testing sets of clothes. She initiated further talks and inspired the testers to closely observe the products. The survey consists of thirteen questions closed with a choice test and three open questions. It was filled after about a month of using the clothes by children in the case of the first round of tests and about two weeks of use in the case of the second round of tests. In both cases, the respondents used the same questionnaire.

The structure of the questions supports both the study of the aesthetic considerations of the collection, functional aspects and the approach of parents and

⁶¹ Don Norman „Dizajn na co dzień”, Wydawnictwo Karakter 2018; str 250-251

children to the specialized forms of clothing offered to them for children with atopic dermatitis.

The interpretative paradigm of the conducted research was taken into account in three open questions supplemented with copious e-mail correspondence. The survey helps to complete the qualitative study of the designed stylings and broadens the research perspective.

The first question is to examine the parents' attitude towards specialist / medical clothing- dressings for children - it turns out that some parents (not all) benefit from such support, usually clothes from one of the leading brands are chosen.

All of the respondents chose a definitely affirmative answer to the question relating to the need to create a special brand of clothing intended for children with atopic dermatitis. The method of dyeing clothes for the respondents is rather important, although many people learned about the method alternative to synthetic dyes only during the research. For one of the parents, it didn't matter how the clothes were dyed. Most people were satisfied with the colours of the clothes they received for testing (one person had no opinion on this). All of the respondents indicated that children feel good in these colour sets and that they meet their aesthetic needs. A definitely affirmative answer, common to all respondents, was asked about the external seams in clothes - they definitely do not interfere with play and are comfortable for children. The clothes allowed the children to move freely.

The materials used in the clothes were found to be airy, comfortable and suitable for children with atopic dermatitis. Parents used to dress their children in layers - I guess you can interpret this: they didn't always use all the layers. However, they were quite unanimous in saying that the first layer, adhering to the skin, fulfills its protective role (one person had no opinion on this subject). Various answers were given to the question related to the maintenance (washing) of clothes; some of the respondents did not notice the difference, one person indicated a problem with stretching the clothes (linen knitwear) after washing, in one case minor damages appeared

- probably due to too delicate combination of forms and intensive use. Opinions were also very divided on the question regarding the creative fun of dyeing clothes by hand, some of the respondents were enthusiastic about this proposal, others were reluctant, there was also a person definitely against. The range of valuation attempts for the products offered to respondents was also varied.

The interpretative part of the questionnaire supplemented the study with a closed test and all parents took advantage of this possibility, describing their impressions and their children's impressions in more detail. There are also comments supporting further design work. Parents also sent their comments and observations by e-mail after completing and returning the questionnaire.

There was a remark about the excessive delicacy of natural colours used in clothes - at the beginning the child would prefer a different colour. After a few days, it described the colour as "leathery" and after a while it was very happy to wear clothes. One of the children initially had reservations about the haptic properties of nettle, hemp, cotton and linen fabrics.

The children were happy to look after the swan toy and were glad that it could be attached to the pocket and taken with them everywhere.

The parents did not choose clothes for their children themselves - they were offered them. In two cases, it turned out that the tester was uncomfortable with one of the items in the assortment sent to him. One of the sweatshirts turned out to be too loose for a child who liked more fitted clothes. Shorts with braces were intended for younger children, and they went to a child who was already learning independence while taking care of his physiological needs.

For one of the boys, the pants he received became the favorites.

The respondents often emphasized that the children themselves choose from among the clothes they have received for testing and want to wear them.

Chapter V.2

Conclusions from the research conducted.

Design of a collection of clothes for children with atopic dermatitis met with a great interest of parents of children with atopic dermatitis. I received many e-mails and inquiries from people associated in the Polish Society of Atopic Diseases. The need to create special clothes for children with skin diseases was emphasized. People associated with the Polish Society of Atopic Diseases' social media website eagerly contacted them by reporting their needs and their needs. A telephone interview with the president of the association expanded cognitive research and contributed to the creation of assumptions for the design of collections for children with atopic dermatitis.

People who applied for testing cooperated very willingly and shared their knowledge. They analysed analytically the tested products, supporting and inspiring the design works.

Colour was important to me when designing the collection. Initially, I was very cautious about dyeing with plants in the case of children suffering from AD due to the potential possibility of allergic reactions to dyes. However, none of the parents of the test children reported such a situation. For dyeing, I chose only tinctures from trees and shrubs with scientifically documented healing properties. Some of the colours have turned out to be unstable, but some

of them can successfully replace chemical dyes - they are also often waste from the woodworking industry.

I think that despite noticing changes caused by skin treatment, some of the chemical dyes used industrially to dye materials are quite low awareness of their potential harmfulness. It would probably be useful to educate the community of people struggling with skin diseases in this regard.

Models without plaster, using natural colours of plant fibers or delicately bleached, also appear in the collection as alternative stylings. I think this may be important for people with many different allergies. The differences in the perception of the sense of touch between the different materials used in the collection were surprising - the same material for one child was nice and cozy, and for the other child it was pleasantly scratchy ... it was as "pleasant" despite considerable variations in the ranking of the feeling itself.

Most children have a problem with overheating their skin. Vents or the use of materials that support air circulation around the body become important here.

My experience and observations show that, due to its unique properties, the most suitable materials for people with skin diseases are flax and bast fiber materials: such as hemp or nettle. The thicker and more body-fitting forms made of cotton knitted fabrics required the use of ventilation panels made of openwork knitted or knitted linen fabrics. The problem here was the production of clothes in seamless technologies due to the use of raw material from bast fibers. Therefore, I investigated the possibility of packaging fabrics and knitted fabrics.

The absence of internal seams and some rigid technological knots made the clothes soft, and their inner side is smooth and gentle to the skin with which it has direct contact. The outer seams worked well for clothes for children with atopic dermatitis, did not interfere with everyday use and supported the designs in terms of aesthetics by introducing clear lines dividing the stylings of different thicknesses. They were used during the work on the compositions of the stylings. After the first round of testing, I gave up on too delicate a combination of forms of clothing. Seams in children's clothes must be very strong due to the intensity of use.

I think that in the case of dermatological diseases, the quality of the garment that is in direct contact with the skin is of fundamental importance, both for the patient's well-being and for his physical health. Especially in periods of remission of the disease, it is impossible to walk in medical underwear under clothes all the time. Man requires meeting his aesthetic needs. On a daily basis, they are satisfied with

everyday products that surround them, including clothes. Therefore, these should not be things that are toxic to the body or have a negative impact on the environment with which we are inextricably linked.

The resulting collection is made of plant fibers, dyed with plant dyes that have a beneficial effect on the health of the skin, and has no synthetic additives: , non-woven fabrics, buttons, zippers, etc. I occasionally use synthetic rubber to better fit the clothes to the figure - but it can be removed before composting the clothes - because the garments produced in this way can be disposed of in this way.

I think that the collection I proposed is the culmination of my work so far research. It is also an introduction to further work on the production of clothes for people with atopic dermatitis.

