IN THE HIGH COURT OF UGANDA SITTING AT GULU

Reportable

Criminal Appeal No. 0019 of 2019

In the matter between

KOMUHANGI SILVIA **APPELLANT**

And

UGANDA **RESPONDENT**

Heard: 22 July 2019

Delivered: 29 August 2019

Criminal Law *—Negligent Act Likely to spread an infection of Disease—An unlawful or negligent omission or act committed by the accused - The omission or act must be one likely to spread an infection of disease that is dangerous to life - The accused must have known or had reason to believe that his or her conduct had that capacity- the prosecution must establish that the act was committed with intent to cause the contact which causes infection of a disease- criminal negligence refers to a mental state of disregarding known or obvious risks to human life and safety - "likelihood" connotes a significant possibility as contrasted with a remote possibility, that a certain result may occur or that a certain circumstance may exist - there should be evidence led before court showing that infection in such circumstances is not merely fanciful, remote or plausible, but rather that it is statistically significant and almost certain. It should be one whose occurrence is almost certain to materialise, unless preventive steps are taken - evidence must show the presence of a "significant risk" and the circumstances must have presented a realistic possibility of transmission.*

Evidence *— In a criminal trial, the relation of cause to effect must be proved beyond a reasonable doubt - the legal cause is that which is the most active and effective element in an interaction that converts necessary and sufficient conditions into a result - The more particularistic evidence there is that fits with a possibly applicable causal story, the stronger the link with that tangible result - For an inference to be drawn from facts, it must be a reasonable and natural one, and, to a moral certainty. It is not sufficient that it is probable only - A reasonable doubt is not just any conceivable doubt. The law does not require proof that overcomes every possible doubt. Reasonable doubt is doubt based on uncertainty - It is not sufficient that the circumstances create a probability, though a strong one - Facts relied upon to found an inference must be proved beyond reasonable doubt - A conviction may not rest upon the piling of inference upon inference or on conjecture - Court must exercise care not to draw conclusions which permit the drawing of remote or speculative inferences from assumed facts - The established rule of evidence is that the court cannot construct a conclusion upon an inference which has been superimposed upon an initial inference supported by circumstantial evidence, unless the initial inference can be elevated to the dignity of an established fact because of the presence of no reasonable inference to the contrary - A supposition based on theory or opinion, without substantial evidence to support it is conjecture..*

JUDGMENT

STEPHEN MUBIRU, J.

Introduction:

[1] The appellant together with another, was charged with two counts. In Count 1 they were charged with doing a negligent act likely to spread infection of disease Contrary to section 171 of *The Penal Code Act*. It was alleged that the appellant and the other, on *26th* December, 2018 at Gang-Dyang Cell in Kitgum District, unlawfully injected their blood into the body of a child, John Viovnenko aged 6 months, which they knew or had reason to believe to be likely to spread an infection or a disease dangerous to life. In the second count they were charged with the offence of causing grievous bodily Harm Contrary to section 219 of *The*

Penal Code Act. It was alleged that the two of them on *26th* December, 2018 at Gang-Dyang Cell in Kitgum District, caused unlawful grievous harm to, John Viovnenko a child aged 6 months. The appellant's co-accused was acquitted upon the court finding that she had no case to answer. The appellant was on 4th July, 2019 acquitted on the second count but convicted on the first count. She was sentenced to two years' imprisonment.

The respondent's evidence in the court below:

[2] The Respondent / Prosecution case briefly was that on 26th December, 2018 the appellant and her co-accused were en-route to Kidepo National Park. They made a stopover at the home of P.W.1 Lakot Eunice Everline the mother of the victim, John Viovnenko where they spent the night. That evening at around 8.00 pm, the appellant picked the baby from the baby sitter P.W.2 Oryem Rose who was seated outside the house and took the baby inside the house while P.W.1 was in the kitchen preparing supper. Shortly thereafter P.W.1 heard the child cry abnormally loud and persistently. P.W.1 went into the house where she found the appellant carrying the baby wrapped in a Lesu. Attempts to soothe her by breastfeeding and bathing the baby were unsuccessful until sometime past 9.00 pm. The following morning at 4.00 am the appellant and her co-accused left for Kidepo National Park. At day break, P.W.1 Lakot Eunice Everline noted that the baby had inflammations and bloody spots under both armpits. She suspected the baby had been pricked and toxic substances introduced into his body. He took her to hospital where P.W.4 Dr. Okello Geoffrey examined the child and found he had injuries in the middle aspect of both armpits that were firm to the touch, which he classified as dangerous harm. He formed the opinion they were inflicted by a sharp edged object. He recommended emergency post-exposure prophylaxis (PEP).

[3] When the appellant and her co-accused returned from Kidepo National Park later that day at around 4.00 pm, the appellant attempted to wash the *Lesu* but P.W.1

Lakot Eunice Everline prevented her. The L.C.1 Chairman caused the arrest of the appellant and her co-accused who were taken to the police station. After the arrest, a laboratory request was made for testing the sero-status of the appellant. She was confirmed to be HIV positive. When blood stains on the *Lesu* were subjected to a DNA test, it was established that although it tested negative for blood, on basis of other human biological material present thereon, the appellant was the possible donor. The appellant's co-accused was ruled out as the donor of the female DNA isolated from that human biological material on the *Lesu.* The victim's DNA too was not found on the *lesu.*

The appellant's evidence in the court below:

[4] In her defence the appellant testified that on the fateful day she had travelled from Kampala on her way to Kidepo National Park. She together with her co-accused spent the night at the home of P.W.1 Lakot Eunice Everline. She carried the baby on the evening of their arrival out of excitement but when the baby began crying she called the mother to attend to him. She left for Kidepo National Park at 4.00 am the following morning and returned at 6.00 pm on the same day. She took a shower and was preparing to wash her *Lesu* only to be surprised by arrest and the accusation of having pricked the child. Although she admitted being HIV positive, she contended the stain in the *Lesu* was sap from *matooke* and not a blood stain.

Judgment of the court below:

[5] In his judgment the trial Magistrate found that the degree of harm inflicted on the victim did not amount to grievous harm as it was not life threatening and did not constitute a maim. He noted that HIV is recognised worldwide as an infectious and endemic disease. Results of laboratory tests done on the appellant's blood turned out positive for HIV and in her own admission she is a person so infected. That the appellant inflicted the injuries on the child is proved by circumstantial

evidence of having picked the child from the babysitter, taken her into the house from where the child began crying. DNA analysis of the blood stain on the *Lesu* the appellant had used to carry the baby implicated her. That the injuries were localised only to locations under the armpits rules out coincidental insect bites. The act of pricking the baby with a needle was a negligent act that exposed the child to the danger of contracting HIV. The appellant knew or had reason to believe that her act was likely to spread HIV because she was aware of her sero-status. The appellant was accordingly convicted and sentenced.

The grounds of appeal:

[6] The appellant was dissatisfied with the decision and appealed to this court on the following grounds, namely;

1. The learned trial Magistrate erred in law and in fact when he convicted the appellant of the offence of Negligent act likely to spread infection or disease, thereby arriving at a wrong decision.
2. The learned trial Magistrate erred in law and in fact when he relied on weak circumstantial evidence to convict the appellant, thereby arriving at a wrong decision.
3. The learned trial Magistrate erred in law and in fact by failing to consider the defence of the appellant, thereby arriving at a wrong decision.

Arguments of Counsel for the appellant:

[7] In their submissions, Counsel for the appellant averred that the prosecution was only able to prove, as admitted by the appellant in her defence, that she is HIV positive, i.e. that the appellant suffers from a disease which is dangerous to life. The prosecution did not prove any of the other elements of the offence. P.W.4 never named the sharp edged object that could have caused the injuries he saw. P.W.7 could not tell whether the injuries had been caused by pricking or an

insect bite. The trial Magistrate completely ignored the appellant's defence. Returning to the home the following day was not the conduct of a guilty person. There was no direct evidence and the circumstantial evidence was too weak to sustain a conviction. The tests done on the victim did not reveal that he was infected with any disease dangerous to life. They prayed that the appeal be allowed.

Arguments of Counsel for the respondent:

[8] In response, Counsel for the respondent argued that the circumstantial evidence against the appellant was strong enough to sustain a conviction. The injury was inflicted on 27th December, 2018 when P.W.1 Lakot Eunice Everline heard the child crying in an unusually sustained manner and found the appellant carrying the child wrapped in her *Lesu*. The injury was detected on 29th December, 2018 after the departure of the appellant for Kidepo National Park. The evidence was properly evaluated and the appeal should be dismissed.

Duties of a first appellate court:

[9] This being a first appeal, this court is under a duty to reappraise the evidence, subject it to an exhaustive scrutiny and draw its own inferences of fact, to facilitate its coming to its own independent conclusion, as to whether or not, the decision of the trial court can be sustained (see *Bogere Moses v. Uganda S. C. Criminal Appeal No.1 of 1997* and *Kifamunte Henry v. Uganda, S. C. Criminal Appeal No.10 of 1997*, where it was held that: “the first appellate Court has a duty to review the evidence and reconsider the materials before the trial judge. The appellate Court must then make up its own mind, not disregarding the judgment appealed against, but carefully weighing and considering it”).

[10] An appellant on a first appeal is entitled to expect the evidence as a whole to be submitted to a fresh and exhaustive examination, (see *Pandya v. Republic [1957]*

EA. 336) and the appellate court's own decision on the evidence. The first appellate court must itself weigh conflicting evidence and draw its own conclusion (see *Shantilal M. Ruwala v. R. [1957] EA. 570*). It is not the function of a first appellate court merely to scrutinize the evidence to see if there was some evidence to support the lower court's finding and conclusion; it must make its own findings and draw its own conclusions. Only then can it decide whether the magistrate's findings should be supported. In doing so, it should make allowance for the fact that the trial court has had the advantage of hearing and seeing the witnesses, (see *Peters v. Sunday Post [1958] E.A 424*).

The first ground of appeal is struck out for being too general:

[11] Under section 28 (4) of *The Criminal Procedure Code Act*, the grounds of appeal should include particulars of the matters of law or of fact in regard to which the court appealed from is alleged to have erred. Properly framed grounds of appeal should specifically point out errors observed in the course of the trial, including the decision, which the appellant believes occasioned a miscarriage of justice. Appellate courts frown upon the practice of advocates setting out general grounds of appeal that allow them to go on a general fishing expedition at the hearing of the appeal hoping to get something they themselves do not know. Such grounds have been struck out numerous times (see for example *Katumba Byaruhanga v. Edward Kyewalabye Musoke, C.A. Civil Appeal No. 2 of 1998*; *(1999) KALR 621; Attorney General v. Florence Baliraine, CA. Civil Appeal No. 79 of 2003*). The ground is accordingly struck out.

Grounds two and three

[12] The remaining two grounds will be considered concurrently. For the appellant to be convicted of the offence of a Negligent act likely to spread infection of disease Contrary to section 171 of *The Penal Code Act*, the prosecution had to prove that she unlawfully or negligently did an act which is and which she knew or had

reason to believe, to be likely to spread the infection of a disease dangerous to life. The prosecution had to prove each of the following essential ingredients beyond reasonable doubt;

Ingredients of the offence

i. An unlawful or negligent omission or act committed by the accused.
ii. The omission or act is likely to spread an infection of disease that is dangerous to life.
iii. The accused knew or had reason to believe that her conduct had that capacity.

[13] Infection of disease that is dangerous to life may be bacterial or viral.
The rationale for this provision is that some forms of infectious disease, such as hepatitis B and C and the HIV virus that are spread through contact with semen, vaginal fluids, blood, saliva, breast milk, urine or a combination of all of these or other body fluids, rely far more on the infected individual to act responsibly in preventing others from being infected. A person can be convicted under this section only if he or she intentionally, knowingly, or recklessly causes someone else to be exposed to the danger of being infected.

i. An unlawful or negligent omission or act committed by the accused;

[14] The section stipulates that the individual acts "unlawfully or negligently."
Negligence does not always involve an illegal act. This means that if the accused commits a legal act under circumstances that are likely to spread such infection of disease that is dangerous to life, he or she can still be held criminally negligent.

[15] Negligence in this context is the omission to do something which a reasonable person, guided upon those considerations which ordinarily regulate the conduct of human affairs, would do, or doing something which a prudent and reasonable

man would not do *(see Blyth v. Birmingham Waterworks Company (1856) 11 Ex Ch 781).* An accused will be liable for negligence, if he or she unintentionally omitted to do that which a reasonable person would have done, or did that which a person taking reasonable precautions would not have done. It is the failure to exercise due care as required by circumstances that gives rise to liability. In deciding what a reasonable person would have done or foreseen, the court must not take into account the individual characteristics or experiences of the accused. Negligence is to be judged not by an internal, but by an external standard that ignores the actual state of mind of the offender.

[16] The duty of care arises from the foreseeability of harm to the victim, the degree of certainty that the victim will suffer injury, the closeness of the connection between the conduct of the accused and the injury suffered or likely to be suffer, the moral blame attached to the conduct of the accused, the policy of preventing future harm, the extent of the burden to the accused and consequences to the community of imposing a duty to exercise care with resulting liability for breach. Consequently a person is responsible, not only for the result of his or her wilful acts, but also for an injury occasioned to another by his or her want of ordinary care or skill in the management of his or her property or person.

[17] "To be stricken with disease through another's negligence is in legal contemplation as it often is in the seriousness of consequences, no different from being struck with an automobile through another's negligence" *(see Billo v. Allegheny Steel Co. (Pa. 1937) 195 A. 110, 114).* It is therefore a well-settled proposition of law that a person is liable if he negligently exposes another to a contagious or infectious disease *(see R v. Dica [2004] 3 ALL ER 593, [2004] QB 1257, [2004] 3 WLR 213, [2004] 2 Cr App R 28; R v. Konzani [2005] EWCA Crim 706; Crowell v. Crowel, 180 N.C. 516, 105 S.E. 206 (1920); and R. v. Cuerrier, [1998] 2 S.C.R. 371)*. A person though is not to be convicted of this offence unless it is proved that he or she was reckless. If so, the necessary *mens rea* will

be established. Recklessness is a question of fact, to be proved by the prosecution.

[18] In order to secure a conviction, the prosecution must be able to show that the accused knew he or she had a disease that is dangerous to life and he or she intentionally exposed someone else to danger. In that case the prosecution must establish that the act was committed intentionally. That the act was committed with intent to cause the contact which causes infection of a disease. The most obvious difference between intentional and negligent conduct is that in the former case, the actor chooses to do harm, while in the latter, he or she is unaware that he or she is causing harm.

[19] Alternately, the prosecution can show that, while knowing he or she had the disease, the accused was indifferent to the risk of exposing someone else and engaged in contact that recklessly endangered the other person. From this perspective criminal negligence refers to a mental state of disregarding known or obvious risks to human life and safety. Criminal negligence requires more than merely a mistake in judgment, inattention, or simple carelessness. It only pertains to conduct that is so outrageous and reckless that it marks a clear departure from the way an ordinary careful person would act under similar circumstances. Engaging in conduct capable of transmitting an infection of disease through the direct transfer of bacteria, viruses or other germs in a manner that disregards known or obvious risks to human life and safety, is criminal negligence for the purpose of this provision. Criminal negligence exists only if the act itself clearly involves a high degree of danger. Carelessness, thoughtlessness, or even sheer stupidity do not elevate the conduct to criminal negligence, regardless of the consequences.

[20] Thus, it is often said that intention consists in knowledge, recklessness in conscious risk creation, and negligence in inadvertence amounting to fault. Criminal negligence (sometimes referred to as "gross" negligence) occurs when

an individual behaves in a way that is an extreme departure from the way that a "reasonable" person would act. Criminal negligence is basically analogous to an "I don't care what happens" type of attitude. The act or conduct must have fallen below the standard of care expected of a reasonable person. The prosecution must prove beyond a reasonable doubt that the act or conduct showed a marked departure from the conduct of a reasonable person in the circumstances; and that a reasonable person in the same circumstances would have foreseen that this conduct posed a risk of bodily harm. The act of the accused must have been deliberate (in the sense of voluntary) and not accidental, and that a reasonable person in the accused's position (performing that act) would have realised they were exposing another or others to an appreciable risk of being infected with a disease that is dangerous to life.

[21] To be "unlawful," an act must be criminal as opposed to being merely tortious. There must be proof of a non-accidental, deliberate and conscious act of the accused. It is not sufficient that the prosecution shows that the act alleged was unlawful in the sense of being against the law. The prosecution must also show that the act was dangerous. An act is dangerous in law if it is such that a reasonable person in the position of the accused would have realised that by doing such an act, the victim was being exposed to an appreciable, that is to say, significant risk of being infected with a disease that is dangerous to life.

[22] Unlike both intention and recklessness, negligence does not involve any awareness by the individual that he or she is doing something wrong. Often when a person has unintentionally caused injury, it is because he or she has failed either before acting or while acting to examine the situation he or she is in or to pay attention to what he or she is doing. Criminal negligence refers to a mental state of disregarding known or obvious risks to human life and safety. In the case of a negligent act or omission, the prosecution therefore has the duty to prove that the accused was under a duty of care recognised by the law, such that by his or her deliberate act or omission, constituting a breach of that duty of care, he

or she fell so far short of the standard of care which a reasonable person would have exercised in the circumstances, and which involved such a high risk of another person being infected with a disease that is dangerous to life, that the act or omission of the accused merited criminal punishment. The question then would be whether a reasonable person in the position of the accused, being a person of the same age and experience as the accused, and having the same degree of knowledge as the accused would have had of the circumstances, and also being a person of ordinary fortitude and strength of mind, would have realised that by doing that act he or she was exposing the victim to a significant risk of being infected with a disease that is dangerous to life.

[23] If the case advanced by the prosecution is that of commission of an unlawful act, it would seek to prove that the accused is blameworthy because he or she knew or foresaw that his or her act or omission was forbidden and that it was unlawful, but he or she nevertheless proceeded to engage in that conduct. On the other hand, if the case advanced by the prosecution is that of commission of a negligent act, it would seek to prove that the conduct of the accused is reprehensible because he or she did not foresee or know something or did not do something, although according to the standards of the law and the reasonable person he or she should have known or foreseen something or should have performed an act. Therefore, the characteristic of commission of an unlawful act is positive, i.e. that the accused willed, knew or foresaw something, while the characteristic of negligence is negative, i.e. that the accused did not will or know or foresee something even though it is reasonable to believe that the accused should have.

[24] During the trial, the theory advanced by the prosecution was not that the appellant had negligently, but rather that she had unlawfully injected her blood into the body of the child, John Viovnenko aged 6 months. It is trite that a person must give permission before any type of medical treatment, test, examination or other act interfering with bodily integrity is undertaken. As a pure legal point, in

specific circumstances, administering an injection to a child that young as part of a course of treatment, test or examination without the consent of the mother or another person who is qualified under the law to consent, is no different from assaulting the child. At common law, when the parent is not available or does not have custody, depending on the specifics of the minor's particular circumstances, consent for health care generally may almost always be given by a legal guardian or a court and may sometimes be given by related caretakers, foster parents, social workers, a probation officer, or someone with parental responsibility who has the appropriate authority (*see S. v. McC [1972] AC 24; In Re R (A Minor) (Wardship: Consent to Treatment)[1992] Fam 11; A and D v. B and E[2003] EWHC 1376 (Fam)* and In *Re T (A Minor) (Wardship: Medical Treatment) [1997] 1 WLR 242, [1997] 1 All ER 906).* Exceptionally, life-saving treatment may be given without consent under the doctrine of necessity (*see In Re A (Minors) (Conjoined Twins: Medical Treatment); aka In re A (Children) (Conjoined Twins: Surgical Separation [2000] 4 All ER 961, [2001] 2 WLR 480).* In the absence of consent, acts that interfere with the bodily integrity of another constitute the tort of trespass to the person, and will normally also come within the purview of one or more offences against the person.

[25] In the instant case, there was evidence of a suspected act that interfered with the bodily integrity of the child, without corresponding evidence to suggest that the child was the subject of any emergency medical treatment or that the injuries seen on his body were inflicted as part of emergency health care. It is trite that any harmful or offensive touching without permission is battery. Violent conduct involving the deliberate and intentional infliction of bodily harm is and remains unlawful, The HIV status of the offender is irrelevant in determining whether or not a criminal act has been committed. An act of physical assault is criminal in itself, regardless of whether it carries any risk of HIV infection. If a sane person in ordinary circumstances deliberately acts in a way she knows to be illegal, she has acted with *mens rea*, i.e. with a guilty intent based on knowledge of

circumstances and foresight of consequences. The only question then was whether those injuries were inflicted by a voluntary act or by other cause.

[26] Regarding the circumstances in which the suspected injury was inflicted, it was the testimony of P.W.3 Aya Josephine that she was babysitting the baby when the appellant picked him and took him inside the house. The baby soon started crying. The appellant later came out of the house after handing the baby over to the mother, P.W.1 Lakot Eunice Everline, and sat beside her. The baby was breastfed but could not stop crying. The manner in which the child cried was unusual. P.W.2 Oryem Rose testified that at around 7.30 pm, she saw the appellant pick the baby from the babysitter and carry him into the house. Later the child began crying and despite being bathed and breastfed by the mother, did not stop crying until sometime around 9.30 pm. The following day when the appellant returned from Kidepo National Park at around 3.00 pm, she saw her prepare to wash the *Lesu* together with her other clothes. The appellant then instructed Angwech to wash the *Lesu* very fast after the L.C 1 Chairperson had called her, but Angwech just hang it on the wire. When the L.C 1 Chairperson checked it, he saw what appeared to be blood stains on it. P.W.6 Okot Ronald the L.C.1 Chairperson testified that he was called to the home on 27th December, 2018 at around 3.00 pm on. When the appellant returned later, he arrested her. On their way to the police, the appellant asked for her *Lesu* she had been about to wash, to be brought along.

[27] Regarding the nature of the suspected injuries that were inflicted, it was the testimony of P.W.1 Lakot Eunice that she saw the injuries early morning of 27th December, 2018 and they appeared to her to be holes inflicted with a needle. P.W.2 Oryem Rose saw the injuries around the region of the armpits of the victim. It appeared to her the baby had been pricked. This was confirmed when the child was taken to the hospital. P.W.6 Okot Ronald the L.C.1 Chairperson too saw the marks under the armpits when he was called to the home at around 3.00 pm on 27th December, 2018. To P.W.7 Lamu Francis the SOCO, the injuries

appeared like ones caused by pricking or insect bite. The right armpit had two pricks as seen in exhibit P. Ex.8 (close up photographs). P.W.4 Dr. Okello Godfrey examined the victim on 27th December, 2018 and found an injury under each of the armpits. He testified that the injuries had been inflicted within the previous 24 hours. In his view, the injuries had probably been inflicted by use of a sharp edged object.

[28] The prosecution had the burden of proving both factual and proximate causation in order to hold the appellant accountable for the injuries. The prosecution had to prove that the appellant's act was both the factual and the legal cause of the injuries seen. To P.W.1 Lakot Eunice, the injuries appeared to be holes inflicted with a needle. To P.W.2 Oryem Rose, it appeared the baby had been pricked. To P.W.7 Lamu Francis the SOCO, they appeared to have been caused by pricking or insect bite. To P.W.4 Dr. Okello Godfrey they were injuries that had probably been inflicted by use of a sharp edged object. The prosecution evidence proving causation therefore yielded two hypotheses; pricking with a needle or other sharp edged object on the one hand, and insect bite on the other. The first hypothesis would be relevant to connecting the appellant's conduct with the resulting effect, the injuries seen, while the latter one (insect bite) would not.

[29] In a criminal trial, the relation of cause to effect must be proved beyond a reasonable doubt. Any phenomenon depends on a definite diversity of conditions to bring it into existence. A cause is an active and primary thing in relation to the effect. Sometimes there is only one direct and immediate cause of injury. But more often the factors of a causal nature are intricately combined, some of them being only secondary circumstances. While it is only one of the circumstances conducive to a certain effect, the cause is that which is the most active and effective element in an interaction that converts necessary and sufficient conditions into a result. In the instant case, the prosecution theory was that the injuries seen were caused by pricking with a needle or other sharp edged object rather than an insect bite. It was incumbent therefore on the prosecution to prove

that pricking with a needle or other sharp edged object was the most active and effective element, and not or even if there may have been other circumstances conducive to that effect, including insect bite.

[30] There was no direct evidence of the appellant having pricked the child with a needle or other sharp edged object. The prosecution relied entirely on circumstantial evidence. The trial court was satisfied that the evidence before it proved to the required standard that what was seen was the result of voluntary human action as contrasted with an abnormal condition arising from other natural causes. A circumstantial case consists of evidence of a number of different circumstances which, taken in combination, point to the guilt of the accused person because they would usually exist in combination only because the accused did what is alleged against him or her. Such a conclusion must be established beyond reasonable doubt. It is not sufficient that it is a reasonable conclusion available from that evidence. It must be the only reasonable conclusion available. The conclusion drawn from the facts should be irresistible. If there is another conclusion which is also reasonably open from that evidence, and which is consistent with the innocence of the accused, he or she must be acquitted.

[31] In order to successfully challenge the trial court's assessment of circumstantial evidence on appeal, an appellant must show that no reasonable court could have found that the conclusion reached by the trial court was the only reasonable inference. When analysing what actually happened on the particular occasion, the court reasons from known experiences to unknown experiences. Inferences tend to reflect prior knowledge and experience as well as personal beliefs and assumptions. The court compares the coherence of the particularistic evidence (presence of injuries under the armpits) with the various possibly applicable causal stories (pricking with a needle or other sharp edged object as opposed to an insect bite). The more particularistic evidence there is that fits with a possibly applicable causal story, the stronger the link with that tangible result (the injuries

see), *(see RJ Allen, The Nature of Juridical Proof (1991) 13 Cardozo Law Review 373).*

[32] A prick is a small mark or puncture made by a pointed object rather than a sharp edged object as proffered by P.W.4 Dr. Okello Godfrey. To prick therefore is to make a hole by puncturing something. A sharp edged object is more likely to result in a cut than a prick. Immediately after a prick, erythema (redness of the skin) may appear. On the other hand, an insect bite is a general term for the dermatitis that is caused by the bite or sting of a mosquito, gnat, fly, bee or other insect or arthropod. It is thought to be an allergic reaction to the salivary components that the insect discharges while sucking blood or to the venom of stings. The severity of the clinical symptoms depends largely on the age of the patient and the severity of allergic reaction.

[33] Immediately after an insect bite, itching wheals or erythema (redness of the skin) may appear. Scabies is one such infestation caused by the mite Sarcoptes scabieiva. The impregnated female arthropod tunnels into the stratum corneum of the skin and deposits eggs in the burrow. When the mite burrows into the skin, it forms burrow tracks, or lines, which are most commonly found in skin folds, and resemble hives, bites, knots, pimples, or patches of scaly skin. Small, multiple, light pink papules 2 mm to 5 mm in diameter occur on the trunk and inner arms, among other locations. The most common sites of infestation include armpits. It is known to cause intense itching, worsening at night. It is highly contagious, being easily spread through close physical contact and by sharing bedding, clothing, and furniture infested with mites. Scabies most frequently occurs in children and young adults *(see Roncalli, RA. The History of Scabies in Veterinary and Human Medicine from Biblical to Modern Times published in Veterinary Parasitology (1987); Vol. 25: pages 193-198) by G. M. Urquhart; J. Armour; J. L. Duncan; A. M.. Dunn and Frank W. Jennings).*

[34] In the instant case, the finding that the injuries in question were caused by pricking with a needle or other sharp edged object rather than an insect bite, was solely based on their appearance and location. According to the trial Magistrate, "the injuries were localised only to locations under the armpits" and this "rules out coincidental insect bites." Without evidence of insect infestation in the house or any description of the type of insect that could have caused the injuries, that the injuries were the result of an insect bite was not evidence but argument. On the other hand, there was equally no evidence of presence of a needle or other sharp edged or pointed object in the house capable of inflicting such injuries. The court therefore reached the conclusion that these injuries were inflicted with an implement rather than being the result of insect bite, solely based on inference. It turns out that one theory was based on argument (insect bite) while the other was based on inference (pricking with a needle or other sharp edged object).

[35] It has been held before that there is no burden on the prosecution to prove the nature of the implement used in inflicting the harm nor is there an obligation to prove how the instrument was obtained or applied in inflicting the harm *(see S. Mungai v. Republic [1965] EA 782 at p 787 and Kooky Sharma and another v. Uganda S. C. Criminal Appeal No.44 of 2000).* Nevertheless and although none of the suspected implements mentioned was recovered and tendered in evidence, according to *E. Sentongo and P. Sebugwawo v. Uganda [1975] HCB 239*, when the prosecution fails to produce the instrument used in committing the offence during trial, a careful description of the instrument will suffice to enable court decide whether the instrument could have caused the injury or not. It is enough if through the witnesses, the prosecution adduces evidence of a careful description of the instrument. In the instant case, there was no evidence describing the type of needle or other sharp edged or pointed object that could have inflicted those injuries. That the injuries were the result of use of a needle or other sharp edged or pointed object, was equally not based on direct evidence but a combination of argument and inference.

[36] As a basis of that inference, the only proved facts were that;- (i) the child began crying unusually and persistently loud while in the arms of the appellant; (ii) the following morning the child was found to have sustained inflammations and bloody, spot-like injuries firm to the touch; (iii) the injuries were localised to areas under the armpits. It is settled law that great care and caution ought to be used in drawing inferences from proved facts, since circumstantial evidence appeals to the plain dictates of common experience and sound judgment. An inference is a permissible deduction from the evidence; it is a rational conclusion, founded upon common knowledge and experience, resulting from the application of ordinary principles of logic *(see Cogdell v. Wilmington & W. R. Co. (1903), 132 N. C. 852, 44 S. E. 618).* A fact can be inferred from circumstantial evidence, so long as it is the only reasonable inference.

[37] For an inference to be drawn from facts, it must be a reasonable and natural one, and, to a moral certainty. It is not sufficient that it is probable only: it must be reasonable and morally certain. The standard is only satisfied if the inference drawn was the only reasonable one that could be drawn from the evidence presented. In such cases the question for the appellate Court is whether it was reasonable for the trial court to exclude or ignore other inferences that lead to a different conclusion inconsistent with the guilt of the accused. An inference attains the required standard of moral certainty only when uncertainty and doubt are eliminated. It is the strength of the prosecution evidence that moves court from a state of uncertainty required by the presumption of innocence to a state of justified certainty. Criminal trials answer one question: Is the accused certainly guilty? If the answer is yes, the accused is convicted; if the answer is probably yes, possibly yes, possibly no or anything other than an unequivocal yes, the accused is acquitted. Verdicts do not necessarily reflect truth; they reflect the evidence presented *(see Furman v. Georgia, 408 U.S. 238, 367-68 (1972)*. A case is decided based on the evidence received during the trial, guided by the law. Decisions are not made on the basis of mere sentiment, conjecture,

sympathy, passion, prejudice, public opinion or public feelings. A guilty verdict only reflects the recognition that no exculpatory evidence was presented at trial.

[38] The question then is whether in the circumstances of this case, the fact that (i) the child began crying unusually and persistently loud while in the arms of the appellant; (ii) the following morning the child was found to have sustained inflammations and bloody, spot-like injuries, firm to the touch; (iii) the injuries were localised to areas under the armpits, all when considered together creates a state of subjective certainty leaving no real doubt that they were caused by pricking with a needle or other sharp edged object, rather than by an insect bite. The presence or absence of opinion evidence from an expert positing (or refuting) a causal link is not determinative of causation (*e.g. Snell v. Farrell, [1990] 2 S.C.R. 311at pp. 330 and 335).* Causation can be inferred, even in the face of inconclusive or contrary expert evidence, from other evidence, including merely circumstantial evidence *(see British Columbia (Workers' Compensation Appeal Tribunal) v. Fraser Health Authority 2016 SCC 25).* It is open to the court to consider other evidence in determining whether it supported an inference that the injury was by pricking and not insect bites. Terrifying

[39] From the point of that direct particularistic evidence seemingly exclusively connected to the fact in issue, the presence or lack of some necessary condition in the causal generalisation at issue becomes especially significant. When the coherence of the particularistic evidence with one of the possibly applicable overall causal story in which it is embedded is sufficiently greater than its coherence with competing causal generalisations and the causal stories in which they are embedded, the more believable the causal story, for the evidence is said to confirm the hypothesis if and only if the degree of belief that is assigned to the hypothesis is raised by the available evidence. The weaker the difference in degree of coherence in the available evidence, the weaker the degree of belief for the degree of belief cannot be raised by assuming evidence.

[40] Both causal stories advanced in the prosecution evidence (of pricking with a needle or other sharp edged object, on the one hand, and an insect bite on the other) suffer the same deficiency of some necessary condition in the causal generalisation; the nature of the injury is not of a distinctive nature. The particularistic evidence of the appellant carrying the baby followed by an unusually sudden and prolonged cry as being causative of the "inflammations and bloody, spot-like injuries, firm to the touch" discovered the following morning, and as being indicative of the appellant's responsibility for inflicting them, is based on inductive reasoning.

[41] Inferences are based on inductive reasoning, which is the process of arriving at inferences from a given body of information. When dealing with inductive reasoning by a trial court, an appellate court has to pay special attention to the inductive leap or inference (the steps leading from the grounds to the conclusion), by which the conclusion follows the premises, since inference is made by a chain of reasoning. The appellate court must scrutinise the process and make an assessment its quality since there is always the danger of selectively drawing upon past experiences to confirm a belief. "A mind, once arriving at an inference that flatters a desire, is rarely able to retain the impression that the notion from which the inference started was purely problematic" (*George Eliot, Silas Marner, 1861).* The court should watch out against the danger of the inexplicit premises (premises that are taken for granted) being false or untenable, and implicit steps involving an invalid derivation. When an inductive argument is strong, the truth of the premise would mean the conclusion is likely, but when an inductive argument is weak, the logic connecting the premise and conclusion is incorrect. This is most evident where conclusions arrived at with inadequate evidence turn out to be incorrect when additional information becomes available.

[42] In the instant case, the trial court did not factor into its evaluation the time lag between the particularistic evidence of the child having began to cry unusually

and persistently loud while in the arms of the appellant the previous evening and discovery of inflammations and bloody, spot-like injuries, firm to the touch, the following morning. Within that time lag, there are many unknown facts constituting variables or imponderables that render the reasoning defeasible. An inference is defeasible if it can potentially be defeated in light of additional information. Had the trial court factored that time lag into the analysis, it would have formed the opinion that it was too wide for a definite conclusion regarding causation and the only safe conclusion that could be made was that the cause(s) preceded the effect. That the injuries were localised to areas under the armpits and the child cried unusually persistently at night was not sufficient to eliminate the probability of injury caused by the mite *Sarcoptes scabieiva* infestation that notoriously cause similar symptoms which are most commonly found in skin folds, such as the inner arms, known to cause intense itching, worsening at night *(see Markell EK, John DT, Krotoski WA. Markell and Voge's Medical Parasitology, 9th ed. Philadelphia: W.B. Saunders, 2006).*

[43] There was inadequate additional information on basis of which the court could eliminate other plausible alternative causes, including the probability that the effects seen were a result of insect bite. The trial court appears to have come to its conclusion based on belief and assumption rather than inference. An assumption is something the court takes for granted or presupposes. That conclusion was based on the belief formed by the trial court that absence of similar injuries on the rest of the child's body implied they were purposely inflicted. The trial court's attempt to eliminate other plausible alternative causes, based only on the location of the injuries, presents a very weak premise. The reasoning appears to be that since there is a lack of evidence for one hypothesis (the insect bite hypothesis), the alternative for that hypothesis can be considered as true. This is typical *argumentum ad ignorantiam*, in essence a logical fallacy that posits that hypothesis to be true only because it had not been proven false. When there is a break in the chain of reasoning from the premises to the

conclusion of inference, the inference is not justified. The logic connecting the premise and conclusion too is incorrect.

[44] Whereas inference is an intellectual act by which one concludes that something is true in light of something else's being true, or seeming to be true, an assumption is something taken for granted or presupposed based only on something previously learned and not questioned. While assumptions are based on beliefs, inferences are based on interpretations. An inference is founded on a premise. A premise is a proposition one offers in support of a conclusion, as evidence for the truth of the conclusion, as justification for or a reason to believe the conclusion. The conclusion that the appellant inflicted the injury could be wrong if the premise that the injuries seen were caused by pricking with a needle or other sharp edged object, was incorrect. That outcome could only be overcome with evidence establishing with a reasonable degree of certainty that the injury could not have been the result of an insect bite.

[45] The presumption of innocence forces a criminal court to view the prosecution's claim of guilt of the accused through the lens of innocence. In order to eliminate reasonable doubt, the prosecution must present evidence so compelling that no reasonable court could reasonably conclude that the accused might be innocent. However, a reasonable doubt is not just any conceivable doubt. The law does not require proof that overcomes every possible doubt. Reasonable doubt is doubt based on uncertainty. "It is doubt based on reason and arising from evidence or lack of evidence, and it is doubt which reasonable man or woman might entertain, and it is not fanciful doubt, is not imagined doubt, and is not doubt that jurors might conjure up to avoid performing an unpleasant task or duty" *(see Black's Law Dictionary, 5th ed. (1979) at 1138).* Mere possible or unreasonable doubts are therefore discounted as legitimate reasons for acquittal under the reasonable doubt standard. Unreasonable doubt stems largely from the possibility that nonexistent or un-presented evidence may explain the actions of the accused and exonerate him or her.

[46] Reasonable doubt flows from insufficient evidence, the lack of which makes certainty of the prosecution's assertion of the accused's guilt unwarranted. In assessing circumstantial evidence, inferences consistent with innocence do not have to arise from proven facts. As was held by the Supreme Court of Canada in *R v. Villaroman, 2016 SCC 33*, the issue with respect to circumstantial evidence is the range of reasonable inferences that can be drawn from it. The court stated;

> A view that inferences of innocence must be based on proven facts is no longer accepted. In assessing circumstantial evidence, inferences consistent with innocence do not have to arise from proven facts. The issue with respect to circumstantial evidence is the range of reasonable inferences that can be drawn from it. If there are reasonable inferences other than guilt, the Crown's evidence does not meet the proof beyond the reasonable doubt standard. A certain gap in the evidence may result in inferences other than guilt. But those inferences must be reasonable given the evidence and the absence of evidence, assessed logically, and in light of human experience and common sense. When assessing circumstantial evidence, the trier of fact should consider other plausible theories and other reasonable possibilities which are inconsistent with guilt. The Crown thus may need to negative these reasonable possibilities, but certainly does not need to disprove every possible conjecture which might be consistent with innocence. Other plausible theories or other reasonable possibilities must be based on logic and experience applied to the evidence or the absence of evidence, not on speculation.

[47] Once there are reasonable inferences other than guilt, the prosecution evidence does not meet the proof beyond the reasonable doubt standard. Such argumentation as the trial court relied upon in the instant case cannot give rise to an inference to the exclusion of all the other reasonable conclusions. Due to lack of material evidence regarding the environment in which the child spent the night, other plausible alternative causes, including the probability that the effects seen were a result of insect bite, was never ruled out. The evidence before court only achieved proof to the level that it was more probable than not that the injuries in question were caused by pricking with a needle or other sharp edged object rather than an insect bite. This level of proof is applied in civil rather than criminal

trials. A preponderance of the evidence in the case means such evidence as, when considered and compared with that opposed to it, has more convincing force, and produces in the mind of the court belief that what is sought to be proved is more likely true than not true *(see Sienkiewicz v. Greif (UK) Ltd [2011] 2 WLR 523; [2011] 2 AC 229).*

[48] In the instant case, the fact that the injuries seen could have been the result of an insect bite was never ruled out, yet it was a plausible explanation. It was an explanation that gave rise to a grave uncertainty founded upon a real tangible substantial basis in the testimony of P.W.7 Lamu Francis the SOCO alongside the physical appearance of the injuries as seen in exhibit P. Ex.8 (close up photographs), and not upon mere caprice or conjecture. The standard of proof achieved by the prosecution was of the nature that, given what is known and what is not known about the facts of the case, the hypothesis that the injuries seen were as a result of pricking with a needle or other sharp edged object, was the best guess, or the most plausible one. It was not the only reasonable explanation as required by the standard of proof in criminal cases.

[49] Moreover, it was the prosecution case that the child was injected with whole blood drawn from the appellant with a syringe. There is no evidence to show that the appellant and the child belong to the same blood group. Direct injection of blood is also a method that is known to pose the risk of introducing blood clots into the recipient's bloodstream *(see Sunseri T. Blood Trials: Transfusions, Injections, and Experiments in Africa, 1890–1920, Journal of the History of Medicine and Allied Science, 2018 Oct; 73(4): 385–411)*. If incompatible blood is given in a transfusion, the donor cells are treated as if they were foreign invaders, and the patient's immune system attacks them accordingly. A potentially massive activation of the immune system and clotting system can cause shock, kidney failure, circulatory collapse, and death (see Laura Dean, *Blood Groups and Red Cell Antigens*, (2005) Bethesda, Md. National Centre for Biotechnology Information (U.S.). To avoid a transfusion reaction, donated blood

must be compatible with the blood of the patient who is receiving the transfusion. The symptoms produced by transfusion reactions are often similar, beginning with "purpura" (dark purple spots on the skin), chills, fever, shaking, and aching. In the instant case, there is no evidence that the child presented with such reactions so as to corroborate the prosecution's theory.

[50] The proof required is "beyond reasonable doubt," it is "a certainty that convinces and directs the understanding, and satisfies the reason and judgment, of those who are bound to act conscientiously upon it," *(see Commonwealth v. Webster, 59 Mass. 295 (1850).* It is not sufficient that the circumstances create a probability, though a strong one. The circumstantial evidence rule does not require the State to exclude every possible theory of innocence, but only the reasonable hypotheses of innocence. The court only determines whether another possible hypothesis suggested by the accused could afford an exculpatory explanation of the events. If therefore, assuming all the facts to be true which the evidence tends to establish, they may yet be accounted for upon any hypothesis which does not point to the guilt of the accused, the proof fails. There should not exist, based on the facts, another hypothesis which could explain the events in an exculpatory fashion.

[51] Proof on a balance of probabilities, which connotes a degree of satisfaction upon the evidence that a particular fact is more likely so than not, does not suffice to support a conviction. The evidence before the trial court established only that the injuries were more likely than not, a result of pricking. The other possible hypothesis of causation by insect bite was not suggested by the appellant but also emerged from the one of the prosecution witnesses. It was never satisfactorily discounted yet it could afford an exculpatory explanation of the events. It is not a question of the court choosing between two (or more) inferences which are equally open. To convict, the court must be able to reject as rational any inferences which are consistent with innocence. Accordingly I find that this ingredient was not proved beyond reasonable doubt.

ii The omission or act is likely to spread an infection of disease that is dangerous to life.

[52] Infectious diseases are caused by organisms such as bacteria, viruses, fungi or parasites. An infection of disease may be spread through the direct transfer of bacteria, viruses, fungi or parasites or other germs from one person to another. Germs can spread through: the air as small droplets (droplet spread) or tiny aerosol particles (airborne spread), contact with faeces and then with the mouth (faecal-oral spread), contact with the skin or mucus membranes (the thin moist lining of many parts of the body such as the nose, mouth, throat and genitals) (contact spread), and blood or other body fluids (for example, urine, saliva, breast milk, semen and vaginal secretions). Germs can spread directly from person to person or indirectly from an infected person to the environment (for example door handles, bench tops, bedding and toilets) and then to another person who comes in contact with the contaminated environmental source. Germs therefore can enter the body through the mouth, respiratory tract, eyes, genitals and broken skin. Some infections can be spread in several of those different ways.

[53] In this context, a disease that is dangerous to life is a significant disorder of structure or function in humans of such a degree as to produce or threaten to produce detectable illness or disorder, usually with specific signs or symptoms or affecting a specific location, that seriously or permanently injures health or endangers life. It was the prosecution case that the child in this case was exposed to the danger of infection of HIV. By damaging the human immune system, HIV interferes with the body's ability to fight the organisms that cause disease. When infected, a person is more likely to develop opportunistic infections or opportunistic cancers, diseases that would not usually trouble a person with a healthy immune system. There is no doubt that acquired immunodeficiency syndrome (AIDS) is a chronic, potentially life-threatening

condition caused by the human immunodeficiency virus (HIV). There is currently no cure for HIV/AIDS, although there are medications that can dramatically slow the progression of the disease. It therefore is a "disease that is dangerous to life" within the meaning of that section.

[54] On the other hand, "likelihood" connotes a significant possibility, as contrasted with a remote possibility, that a certain result may occur or that a certain circumstance may exist. It connotes a real possibility, as opposed to the higher standard of proof centring on probability. The "likelihood" of infection envisaged under that section should be real, not fanciful or remote and should be more than merely plausible. It must be a well-grounded possibility.

[55] For the spread an infection of disease that is dangerous to life to be considered likely, there should be evidence led before court showing that infection in such circumstances is not merely fanciful, remote or plausible, but rather that it is statistically significant and almost certain. It should not be a result that is likely to arise due to mere chance. This is determined so based on its conformity to reason or experience, from evidence that shows its possibility by its frequency in an appropriate series of outcomes. Evidence must show that the danger of infection is not attributed to chance, does not arise haphazardly or unpredictably. The risk of infection must be significant, it should be one whose occurrence is almost certain to materialise, unless preventive steps are taken. Significant risk means that the risk of harm anticipated as a result of the specific conduct, is greater than the normal risk encountered in the daily life of the general population. The prosecution therefore had to establish that pricking the child with a needle or other sharp object in the circumstances of this case was an act that had the effect of exposing the child to a significant risk of infection of disease that is dangerous to life, HIV/AIDS.

[56] There may be different rates of likely infection depending on the characteristics of the particular infection and on the medium by which it is transmitted. Each type of

infection has a complement of factors that can affect the risk of exposure. Relevant to recklessness is the level of risk of transmission and this can vary based on the number of exposures and the nature and status of the infection. One exposure to a highly infectious condition could be regarded as being reckless; conversely, for a condition where there is a low risk of transmission, the level of recklessness increases with the number of exposures since this will increase the possibility of transmission. It follows therefore that court needs to have a clear understanding of the mediums by which and of the ways in which any particular infection can be passed when considering the evidence required to prove how the infection was in fact transmitted or nearly transmitted, and therefore whether it was passed or nearly transmitted by the accused.

[57] The British HIV Association (BHIVA), which is the professional association for doctors and other healthcare professionals working with HIV in the UK, has found that consistent use of HIV treatment to maintain an undetectable viral load is a highly effective way to prevent the sexual transmission of HIV. For as long as a person's viral load stays undetectable, the chance of passing on HIV to a sexual partner is zero. As the campaign slogan puts it, "Undetectable equals Untransmittable" or "U=U." It advises healthcare professionals to explain the scientific evidence behind U=U, emphasising the importance of excellent adherence to HIV treatment and highlighting that U=U is dependent on maintaining a sustained undetectable viral load. The court should therefore bear in mind that there may be varying degrees of infectiousness during the cycle of infection and during any anti-retroviral therapy.

[58] On the other hand, risk of HIV transmission per exposure through needle-stick injury is at 0.3% (95% CI: 0.2%–0.5%) and from sharing injecting equipment at 0.67% (see Thigpen MC, Kebaabetswe PM, Paxton LA, et al. TDF2 Study Group *Antiretroviral pre-exposure prophylaxis for heterosexual HIV transmission in Botswana*. N Engl J Med. 2012;367(5):423–434). The risk of HIV transmission is highest in those people who have had blood or mucosal exposure to someone

who is HIV-positive and with a detectable viral load. While insertive anal intercourse (IAI) and vaginal intercourse (receptive and insertive) and oral sex are described as having lower per-act risks, unprotected receptive anal intercourse (UPRAI) and sharing needles have the highest risk of acquiring HIV per exposure (see Binta Sultan, et al. Current perspectives *in HIV post-exposure prophylaxis, (2014) HIV/AIDS (Auckland, NZ).*

[59] The chance of HIV transmission by needle stick injury had been estimated to be 0.3%. It was found in a case-control study that the risk was increased for exposures involving (1) deep injury, (2) visible blood on the device causing injury, (3) or a device previously placed in the source patient's vein or artery. Identification of these risk factors suggests that the risk for HIV infection exceeds 0.3% for percutaneous exposures involving a larger volume of blood or a higher HIV titre in the blood. The risks after mucous membrane and skin exposures (approximately 0.1% and <0.1% respectively) probably also depend on the volume of blood and the titre of HIV. The risk is probably higher for skin contact that is prolonged, involves an area that is extensive, or in which the skin integrity is visibly compromised. *(see Infection Control Measures Against Viral Infections, at https://virology-online.com/general/InfectionControl.htm (visited 25.08.2019).* The virus is more likely to survive in a needle stick when there are lower temperatures, greater volumes of blood and within larger syringes.

[60] HIV is spread only through certain body fluids from a person who has HIV. These fluids are blood, semen, pre-seminal fluids, rectal fluids, vaginal fluids, and breast milk. In light of the fact that one can only get HIV by coming into direct contact with certain body fluids from a person with HIV who has a detectable viral load, the level of risk of infection not only depends on the mode of transmission but also the infected person having a detectable viral load at the material time. Therefore, scientific evidence is extremely helpful here and it should also include specific information on the degree of infectiousness of the accused at the time of the alleged offence.

[61] In light of the fact that there may be varying degrees of infectiousness during the cycle of infection and during any anti-retroviral therapy, what is considered a "significant" risk of HIV transmission for the purposes of criminal liability depends on the viral load rather than the mere fact of the HIV status of the source individual. The viral load at the material time is key to determining the risk of HIV acquisition for the person exposed.

[62] In some jurisdictions such as the state of Louisiana, the United States, a person may be convicted of the intentional exposure of another to the AIDS virus by "any means or contact" without the knowing and lawful consent of the victim. There "means or contact" includes "spitting, biting, stabbing with an AIDS contaminated object, or throwing of blood or other bodily substances." With such a formulation, a conviction may be procured even without proof that there was an exchange of bodily fluids during the impugned act, which would have resulted in the exposure of the victim to the AIDS virus. For example in *State v. Roberts 844 So. 2d 263 (2003),* the appellant had vaginally and anally raped the victim and had bit her with his teeth during the rape. He argued that the evidence was insufficient to support his conviction for the intentional exposure to the AIDS virus because the victim could not tell if her assailant ejaculated, and there was no presence of seminal fluid in her rectal area or her vaginal vault. Furthermore, that the State had not presented evidence to show that his biting the victim exposed her to the AIDS virus and therefore it had not been proved that his teeth were "AIDS contaminated objects" nor that the AIDS virus can be passed through biting.

[63] Dismissing the appeal, the court held the fact that the victim could not state whether or not the appellant had ejaculated and that there was no seminal fluid present hours after the rape did not necessarily mean that at the time of the rape no bodily fluids were exchanged. The appellant's conviction could stand merely upon his rape of the victim under La.R.S. 14:43.5: (A) providing that "No person shall intentionally expose another to any acquired immunodeficiency syndrome (AIDS) virus through sexual contact without the knowing and lawful consent of

the victim." Regarding his additional argument, the court held that the statute did not require the State to prove that the biting was with an "AIDS contaminated object;" rather it defined the means or conduct as, among other things, biting, or by stabbing with an AIDS contaminated object. In the court's view, the appellant's interpretation, that the biting had to be with an AIDS contaminated object, was not reasonable because such interpretation then would also require that the spitting, which precedes biting in the list of subsection D (1), would also have to be with an AIDS contaminated object, and such interpretation was not logical.

[64] Similar reasoning is to be found in *State v. Caine, 652 So.2d 611 (1995)* where the appellant was convicted of attempted second degree murder when during the course of robbery of a carton of cigarettes at a convenience store, he stabbed the attendant with a needle attached to a syringe containing a clear fluid. Before stabbing the complainant, the appellant said, "I'll give you AIDS." The needle broke the skin on her arm, and blood emitted from the wound. The complainant saw the appellant pull the syringe out of his pocket, but she did not move away fast enough to avoid the needle. She then grabbed the appellant, shoved him out of the door, and called the police. On arrest, the appellant's H.I.V test was positive, but the Hepatitis B test was negative. Both of the complainant's tests were negative. During the trial, the prosecution had presented an expert witness who testified that if someone who was HIV positive used the needle prior to the complainant being stuck with the needle, the "probabilities are high that person would be infected HIV positive." He stated that there had been sufficient contact to transfer the virus. Dismissing the appeal, the court was willing to accept the "strong possibility" that the needle was infected with HIV as sufficient to satisfy the statutory requirements for second degree murder. It held;

> The defendant stabbed Fitzgerald with a needle that was attached to a syringe containing a clear liquid. Prior to stabbing her, he told her that he would "GIVE" her AIDS. We find that the defendant had the specific intent to kill Fitzgerald when he stabbed her with a needle that was possibly contaminated with the H.I.V. virus. Although the syringe was not found and, therefore, not tested, there was a strong possibility that the needle was infected with the virus since the

> defendant is infected with the H.I.V. virus, he pulled the syringe from his pocket, and the defendant's arms were covered with "TRACK MARKS" which indicated repeated needle usage. Dr. Suarez testified that development of the AIDS disease comes from first being infected with the H.I.V. virus. Suarez stated that the contact between the needle and Fitzgerald was enough to infect her with the H.I.V. virus. (emphasis added).

[65] An interpretation such as was used in the above two cases, where findings of fact are based on mere "possibilities," poses a danger of extending the criminal law to supporting convictions based on the mere fact of being HIV positive or to the actions of HIV positive persons that pose no significant risk of transmission. By doing so, the criminal process not only runs the risk of imposing harsh penalties disproportionate to any possible offence but also that of discriminating against a person only on the basis of his or her HIV status, rather than focusing on his or her conduct. Penalties cannot be based solely on the fact that an accused is HIV-positive. As can be seen in the case of *State v. Caine, 652 So.2d 611 (1995),* the appellant was convicted of attempted second degree murder for stabbing the complainant with an HIV-infected needle where the state had no evidence that the needle was in fact so infected and where the complainant tested negative for HIV as at the time of trial.

[66] Prosecuting individuals for behaviour or activities that pose no, negligible or low risk of HIV exposure and thus unlikely to lead to HIV infection, (e.g. when using condoms, when an individual has a low or undetectable viral load or is on successful antiretroviral therapy with a low or undetectable viral load); those very unlikely to lead to HIV infection (e.g. biting, oral sex); or those extremely unlikely to result in HIV infection (e.g. spitting, and throwing urine or faeces), may perpetuate popular misconceptions about HIV-related risk. In the absence of evidence showing that at the material time the accused had an infectious viral load and that his or her conduct unlawfully or negligently posed a real risk that his or her blood, semen, pre-seminal fluids, rectal fluids, vaginal fluids, and breast milk coming into direct contact with the mucous membranes or

bloodstream of an uninfected person, would amount to unjustifiable discrimination. To avoid such an outcome, evidence ought to be led showing that the accused was in fact at the material time, “infectious enough” to pose “a substantial risk” when he or she engaged in the impugned risky conduct.

[67] It is for that reason that I am persuaded instead by the approach taken by an appellate court in Geneva Switzerland in *“S” v. Procureur Général*, a decision delivered on 23rd February, 2009 (available at http://www.aidslaw.ca/site/wp-content/uploads/2014/02/5.Swissjudgment2009.pdf), which taking into account the benefit of effective HIV treatment in reducing the risk of HIV transmission, acquitted a person living with HIV of charges of "attempted spread of disease" and "attempted serious bodily harm" on grounds that he was on "proper antiretroviral treatment, had un-detected [viral load] and did not have any other infections.” Therefore, he could not transmit HIV. The prosecutor’s medical expert stated that the risk of transmission was “too low to be scientifically quantified. In its decision, the Court referred to a statement issued in 2008 by the Swiss Federal Commission on HIV/AIDS to the effect that after a review of the scientific data the *Commission fédérale pour les problèmes liés au sida (CFS*) had resolved that an HIV-positive individual not suffering from any other STD and adhering to antiretroviral therapy with a completely suppressed viremia could not transmit HIV sexually, i.e. he or she cannot pass on the virus through sexual contact.

[68] A similar approach was taken in *New Zealand Police v. D alley, [2005] 22 C.R.N.Z*. 495 where a court in New Zealand was faced with evaluating the level of transmission risk in the case of an HIV-positive man who was charged with criminal nuisance for not disclosing his HIV status to a sexual partner before having unprotected oral sex and protected vaginal intercourse. The evidence introduced at trial showed that "the risk of transmission of the virus as a result of oral intercourse without a condom is not zero because it is biologically possible but it is so low that it does not register as a risk." Moreover, the evidence

regarding the risk of transmission during protected vaginal sex showed that "condoms are 80%–85% effective, thus significantly reducing the risk, which, even using the prosecution figures, is low." The best guess estimates put the risk as somewhere around one in 10,000 to 1 in 20,000 risk. In light of the scientific and medical evidence relating to the limited risk of HIV transmission, the Court acquitted the accused. The court observed that although transmission was biologically plausible and that therefore the risk was not zero, but it was so low that it did not register as a risk, yet for a conviction there had to be evidence of a "significant risk."

[69] Similarly the Supreme Court of Canada in *R. v. Mabior, [2012] 2 SCR 584* para 10, had to make an assessment of risk. The respondent in that case was charged with nine counts of aggravated sexual assault for not disclosing his HIV-positive status to nine complainants before engaging in sexual intercourse with them. None of the complainants tested positive for HIV. At trial, the respondent was convicted on six counts and acquitted on three. He was acquitted on the basis of the principle that sexual intercourse using a condom when viral loads are undetectable does not place a sexual partner at a "significant risk of serious bodily harm."

[70] On appeal, the Court of Appeal held that either low viral loads or condom use could negate the "significant risk of serious bodily harm." The Respondent was thus acquitted of four more counts, leaving two convictions in place. In that regard, the Court stated that the requirement of "significant risk of serious bodily harm" required disclosure of HIV status only "if there is a realistic possibility of transmission of HIV." The Crown appealed the acquittals.

[71] The Supreme Court held that a realistic possibility of transmission of HIV is negated if "(i) the accused's viral load at the time of sexual relations was low and (ii) condom protection was used." The Court stated that this standard respects "the interest of a person to choose whether to consent to sex with a particular

person or not," It held that at the time of intercourse with the complainants S.H., D.C.S. and D.H., the respondent had a low viral load but did not use a condom. Consequently, those convictions were maintained. As regards K.G., the record showed that the respondent's viral load was low. When combined with condom protection, this did not expose K.G. to a significant risk of serious bodily harm. That conviction was accordingly reversed. The court observed that it had to do so otherwise persons "who act responsibly and whose conduct causes no harm and indeed may pose no risk of harm, could find themselves criminalised and imprisoned for lengthy periods." The Court added that the "absolute disclosure approach" was "arguably unfair and stigmatizing to people with HIV, an already vulnerable group." It noted that people living with HIV who act responsibly and pose no risk of harm to others "should not be put to the choice of disclosing their disease or facing criminalization."

[72] The latter two decisions demonstrate that in order to sustain a conviction, evidence must show the presence of a "significant risk." The circumstances must have presented a realistic possibility of transmission of HIV. In the latter case, the combined effect of condom use and low viral load precluded a realistic possibility of transmission of HIV. The lesson from the two decisions is that Criminal law should adapt to advances in treatment and to circumstances which impact on the risk factors of the disease in question, lest anti-transmission and exposure laws are arbitrarily and disproportionately applied to those who are already considered inherently criminal. The risk of transmission of HIV cannot be presumed or solely derived from the positive HIV sero-status of the accused. The determination of whether the risk of HIV transmission from a particular act is significant should be informed by the best available scientific and medical evidence. The use of criminal law in relation to HIV should be guided by the best available scientific and medical evidence relating to HIV. Criminal liability should then be limited to circumstances where, based on scientific and medical facts, there is a significant risk of HIV infection.

[73] It is now common knowledge that effective HIV treatment significantly reduces AIDS-related deaths and extends the life expectancy of people living with HIV to near-normal life-spans. Secondly, effective HIV treatment has also been shown to significantly reduce the risk of HIV transmission from people living with HIV to their sexual partners. Thus, effective HIV treatment has transformed HIV infection from a condition that inevitably resulted in early death to a chronic and manageable condition that is significantly less likely to be transmitted. Scientific studies have shown that effective antiretroviral therapy, which reduces viral load and slows disease progression, can reduce the risk of transmission by over 90% *(see Mykhalovskiy E, Betteridge G and McLay D, HIV Non-Disclosure and the Criminal Law: Establishing Policy Options for Ontario (August 2010), pp. 26–44; Attia S et al., "Sexual transmission of HIV according to viral load and antiretroviral therapy: Systematic review and meta-analysis," AIDS, 2009, 23(11):1397–1404; Cohen MS et al., "Prevention of HIV-1 infection with early antiretroviral therapy," The New England Journal of Medicine, 2011, 365(6):493–505).*

[74] "Viral load" is the term used to describe the amount of HIV circulating in the body and is usually measured in the blood. Viral load is measured in terms of the number of copies of HIV per millilitre (ml). When viral load is below the level that a test can detect, it is considered "undetectable." This level varies from country to country depending on the available testing technology. In some countries it may be 400 copies/ml; in others 20 or 40 copies/ml. Effective antiretroviral therapy reduces viral load to the undetectable level.

[75] Therefore, for a conviction to be sustained, criminal liability for posing a risk of transmission should at least involve; (i) knowledge of positive HIV status, (ii) deliberate action that poses a significant risk of transmission, and (iii) proof that the action is done for the purpose of infecting someone else or was done recklessly, unbothered as to whether another person might become infected. "Recklessness" as a sufficient culpable mental state for exposure to the risk of

HIV transmission should narrowly define and / or apply only where it is established that there was a “conscious disregard” in relation to acts that represent, on the basis of best available scientific and medical evidence, a significant risk of HIV transmission. After establishing that the accused is a person who at the material time was HIV-positive and with a detectable viral load, the prosecution must then go on to show that the unlawful or negligent conduct of the accused posed a real risk that his or her blood, semen, pre-seminal fluids, rectal fluids, vaginal fluids, and breast milk could or did come into direct contact with the mucous membranes or bloodstream of an uninfected person.

[76] For an HIV exposure to pose a risk of infection, specific bodily fluids from an HIV-positive person need to come into contact with specific body parts of an HIV-negative person. The court must explore the full range of complement of factors that can affect the risk of HIV transmission following exposure. In the instant case there had to be evidence showing that; (i) the appellant was HIV positive at the material time; (ii) at the material time the appellant had an infectious viral load; (iii) the behaviour or activity of the appellant created an environment in which her blood, rectal fluids, vaginal fluids, or breast milk contaminated a sharp or pointed object; and that (iv) the behaviour or activity of the appellant created a situation in which the mucous membranes or bloodstream of the complainant actually got into direct contact, or became exposed to a statistically significant or almost certain risk, of coming into direct contact with those body fluids (such as through a needle stick injury or a break in the skin).

[77] Proof of actual transmission is not required for criminal sanctions. The mere possibility that transmission could occur is sufficient, i.e. that there is a statistically significant possibility that HIV infection may result from that act or conduct. Criminal negligence and "likelihood" is only concerned with the act itself within the context, not with the consequences. Even if no infection occurs, an individual can still be held criminally negligent if his or her underlying behaviour is such that it is likely that someone would be infected with any disease that is

dangerous to life. All the prosecution had to prove is that a reasonable person in a similar situation would have known that the act(s) naturally and probably would result in transmissions of an infection of a disease that is dangerous to the life of another person.

[78] Among the four key risk assessment factors postulated above, it is only the first element (that the appellant was HIV positive at the material time) that was proved by direct evidence (exhibits P. Ex.6 and P. Ex.7) before the trial court. The appellant herself in her defence admitted that she was HIV positive at the time. P.W.4 testified that because of the suspicious circumstances surrounding the injuries inflicted, it was necessary to administer PEP for 28 days. Post-exposure prophylaxis (PEP) is the use of short-term antiretroviral therapy (ART) to reduce the risk of acquisition of HIV infection following exposure. It may take up to 72 hours for HIV to be detected in regional lymph nodes, up to 5 days to be detected in blood, and about 8 days to be detected in the cerebrospinal fluid. This offers a window of opportunity to prevent acquisition of HIV infection following exposure by inhibiting viral replication or preventing dissemination of infection, if ART is started early.

[79] To prove the three other risk assessment factors postulated above, i.e. that (ii) at the material time the appellant had an infectious viral load; (iii) that the behaviour or activity of the appellant created an environment in which her blood, rectal fluids, vaginal fluids, or breast milk contaminated a sharp edged or pointed object; and that (iv) the behaviour or activity of the appellant created a situation in which the mucous membranes or bloodstream of the complainant actually got into direct contact, or became exposed to a statistically significant or almost certain risk, of coming into direct contact with those body fluids (such as through a needle stick injury or a break in the skin), the prosecution relied entirely on inference. From the fact that; (i) the child began crying unusually and persistently loud while in the arms of the appellant; (ii) the following morning the child was found to have sustained inflammations and bloody, spot-like injuries firm to the

touch; (iii) that the injuries were localised under the armpits, the trial court then inferred that the appellant had pricked the child with a needle, that she had used that needle previously on herself to draw blood from her body, and that her blood at the time had an infectious viral load, all of which are inferred or assumed facts. In drawing those inferences, the trial court does not seem to have been alive to the requirement that if proof of an element of a crime is to be inferred, the facts relied upon to found the inference must also be proved beyond reasonable doubt *(see Chamberlain v. R (No 2) (1984) 153 CLR 521).*

[80] Whereas it is well settled that any number of inferences may be drawn in a given case so long as each has a factual foundation, a conviction may not rest upon the piling of inference upon inference or on conjecture *(see Commonwealth v. Campbell, 378 Mass. 680, 686 (1979).* Drawing inferences has been described as requiring two steps. First, there must be findings of fact from which inferences may be drawn. Second, the court considers whether based on the established facts an inference is "reasonable, rational and logical." Court must exercise care not to draw conclusions which permit the drawing of remote or speculative inferences from assumed facts, i.e. the piling of inference upon inference or a pyramiding of inferences. The rule prohibiting the piling of inferences is applied when necessary to guard against attenuated reasoning, as where an initial inference is drawn from a fact, and other inferences are built solely and cumulatively upon the first, so that the conclusion reached is too remote and has no sound logical foundation in fact.

[81] For example in *Waldman v. Shipyard Marina, Inc., 230 A.2d 841 (1967)* the appellant sued the respondent for negligence to recover for damage to a motorboat resulting from a fire that occurred while the boat was berthed at the defendant's marina. After fuelling a boat and as he prepared to move the boat to another berth, the respondent's dockmaster activated the starter. However, the engine failed to respond, and a grinding noise resulted, followed by an explosion, which caused the fire. The dockmaster, after attempting unsuccessfully to

extinguish the fire, boarded another boat, owned by the respondent, and moved it from the proximity of the burning vessel. In the meantime the fire spread to other portions of the marina, including a motorboat owned by appellant lying at a nearby berth. It is for substantial damage to this boat that appellant filed the suit. The trial court found that the facts established by the direct evidence adduced in this case were that the boat was fuelled by the dockmaster; that the dockmaster, without taking any prior precautions to ventilate the vessel, attempted to start the engine; and that a fire occurred. To establish a causal connection between the omissions of the dockmaster to take precautions after fuelling and the fire, the trial justice inferred that gasoline fumes had collected either in the engine room or in the bilges of the boat. From this inferential fact he then inferred that these fumes were ignited when the dockmaster attempted to start the engine.

[82] On second appeal, the respondents argued that whereas there was evidence of the dockmaster 's failure to take precautions against fire in attempting to start the engine after the fuelling operation, it was the respondent's contention that the record still remained barren of any legally competent evidence tending to prove that the negligence of defendant was a direct and proximate cause of the fire. In support of this contention, the respondent urged that in finding causation the trial court drew an inference from the established evidentiary facts and from that inference again inferred the causative relationship between respondent's negligence and the fire. It argued that this resting of a finding of ultimate fact on an inference which in turn rests upon another inference violates the long-standing rule in this state that such pyramiding of inferences is prohibited. The court found in favour of the respondent, holding that there was no direct evidence on the record "that gasoline, either in liquid form or fumes, collected in the bilges or compartments of this boat. It is clear, however, that the trial justice so inferred and that he then went on to infer that such liquid or gaseous fuel was ignited by the activation of the starter, thereby causing the fire. The court then explained;

> A trier of fact may draw reasonable inference from established evidentiary facts that become facts upon which reliance may be placed in the fact-finding process....It is well settled that a reasonable

> inference drawn from an established fact is in itself a fact upon which reliance may be placed by one exercising a fact-finding power. However, this court, when confronted with situations involving the pyramiding of inferences, so called, has usually followed what appears to be the generally accepted rule on the subject, that is, that such inference drawn from another inference is rejected as being without probative force. Obviously the reason for the rule is to protect litigants against verdicts predicated upon speculation or remote possibility.....a reasonable inference drawn from an established fact is itself an inferential fact which may be of probative force, it does not follow that such an inferential fact may then serve as the basis for a further inference that would likewise possess some probative force. A conclusion reached by drawing inferences from inferences is never considered as being probative of an ultimate fact under any proper concept of judicial proof.....this court has consistently rejected as being without evidentiary value an inference drawn from another inference.

[83] In that case, the second appellate court found that the second inference could be accepted as being of probative force only if the inference upon which it rested, that is, that the fumes accumulated in the engine room or bilges, necessarily excluded the drawing of any other reasonable inference from the fact that the fuelling operation had been carried out. The court was unable to agree that such is the only reasonable inference that could be drawn from the carrying out of the fuelling operation. That degree of probability necessary to exclude other reasonable or contrary inferences did not inhere in the basic inference, in the court's opinion. The court was of the view that it may well be that the inference that fumes accumulated as a result of the fuelling operation would possess such a degree of probability as to exclude other reasonable inferences had it been established that there was some defect in the fuel tank or gasoline line or some spillage during the fuelling operation. But absent some additional evidentiary facts, the court was constrained to conclude that the fact of the fuelling operation was open to reasonable inferences other than an accumulation of gasoline fumes.

[84] Any rational conclusion must be based on evidence. An inference is a deduction of fact based on "inductive reasoning" using logic, reasonability and human experience. Inferences are generally at the discretion of the court based on the weighing of the whole of the evidence. An inferred fact must therefore be one that is "reasonably and logically drawn from a fact or group of facts established by the evidence*" (see R v. Morrissey, 1995 CanLII 3498).* The ability of a court to make inferences should be limited, otherwise it would require parties to disprove every possible conjecture, no matter how irrational or fanciful. Inference must be carefully distinguished from conjecture or speculation and there can be no inferences unless there are objective facts from which to infer other facts which it is sought to establish *(see Caswell v. Powell Duffy Associated Collieries Ltd., [1940] A.C. 152 at 169).* An inference that does not properly flow from the established facts is mere conjecture and speculation.

[85] Where, as in the instant case, proof involves several tiers of inference, the courts normally insist that each tier prior to the final one should rest on proof beyond reasonable doubt. If the proved circumstances justify an inference pointing to an essential fact which inference outweighs all reasonable inferences to the contrary, it can then be said that a conclusion as to the existence of the ultimate fact is justified by the circumstantial evidence. For a second inference to be probative, the prior inference must be established to the exclusion of any other reasonable theory rather than merely by a probability, in order that the last inference of the probability of the ultimate fact may be based thereon.

[86] The established rule of evidence is that the court cannot construct a conclusion upon an inference which has been superimposed upon an initial inference supported by circumstantial evidence, unless the initial inference can be elevated to the dignity of an established fact because of the presence of no reasonable inference to the contrary. Obviously a court should never draw an inference from an inference that is itself speculative or of remote possibility. An inference will have probative force when it rests on another inference where that inference

clearly excludes the drawing from the same fact of another reasonable inference. But an inference resting on an inference drawn from established facts must be rejected as being without probative force where the facts from which it is drawn are susceptible of another reasonable inference *(see Waldman v. Shipyard Marina, Inc., 230 A.2d 841 (1967).* Whenever in order to make a finding of fact the court must climb the tiers of a multifactor approach, the result is a gestalt, not a legal conclusion.

[87] The "inference on inference" rule is a principle that when an inference is based on a fact, that fact must be clearly established and if the existence of such a fact depends upon a prior inference no subsequent inferences can legitimately be based upon it. The rule is effective in excluding conclusions based on speculation and remote possibilities and should be applied where there is an attempt to rest an inference upon an inference that is too remote, too speculative, uncertain or lacking in probative force. It is clearly applicable where the inference is drawn from a prior inference that is speculative or only remotely possible. This rule is not based on an application of the exact rules of logic, but upon the pragmatic principle that a certain quantum of proof is arbitrarily required when the courts are asked to take away life, liberty or property *(see Voelker v. Combined Ins. Co. of America, Fla., 73 So. 2d 403 at 407).*

[88] Moreover, when dealing with circumstantial evidence, the court needs to caution itself of the need to narrowly examine such evidence *(see Dhatemwa Amisi Alias Waibi v. Uganda [1978] H.C.B 218; Teper v. R [1952] AC 480; Simon Musoke v. Regina [1958] E.A. 715 and Tindigwihura Mbahe v. Uganda, S.C. Criminal Appeal No. 9 of 1987).* It is not enough that the court should warn itself on a token basis of the dangers of drawing inferences from this type of evidence. The court should be seen to exercise that great caution in its analysis before drawing the inference. The need for the court to caution itself on the process of drawing inferences arises not only because evidence of this kind can easily be fabricated, but also because the human mind is apt to jump to conclusions, attaching too

much weight to a fact that is really only one part of the case, or being too quickly convinced by an accumulation of detail that is in truth explicable as coincidence or in some other way consistent with innocence. When circumstantial evidence forms the basis of the conviction, such evidence must consist of proof of collateral facts and circumstances from which the existence of the main fact may be inferred according to reason and common experience. The elements must be proven such that every reasonable hypothesis of innocence is excluded. In the absence of proof of a material fact necessary to support a basic inference, the court enters the field of conjecture.

[89] Whereas sharing needles is in the category of behaviour that has the highest risk of transmitting HIV per exposure, there is no evidence in the instant case that the appellant used a needle or any other sharp edged object on the child, that she had previously used on herself. The fact that she used a contaminated, unsterilized implement or one that she had used before on herself which thus contained her blood, rectal fluids, vaginal fluids, or breast milk, is not supported by any evidence. It is based on evidence that established only that it was more probable that not that the injuries seen on the child were the result of pricking. As stated before, for a second inference to be probative, the prior inference must be established to the exclusion of any other reasonable theory rather than merely by a probability. That the injuries seen resulted from pricking was never proved to that degree. It could then not support the additional inference that the needle used to prick the child was contaminated with the blood of the appellant.

[90] Therefore the conclusion that the act of pricking carried the likelihood of spreading an infection of any disease as is dangerous to life, without evidence of the nature of implement that was used to inflict the injury, was based on speculation and surmise, motivated only by the fact that the appellant was HIV positive. The second inference that she had previously used on herself and the third that it was a contaminated, unsterilized implement or one that she had used before on herself which thus contained her blood, could only be made if the prior

or basic inference of the injures seen being inflicted by pricking had been established to the exclusion of any other reasonable theory, which standard was not attained. The finding that the appellant injected the child with her HIV contaminated blood was therefore a speculative inference.

[91] The next inferred fact is that at the time the appellant is alleged to have pricked the child with the suspected needle contaminated with her HIV infected blood, she had a detectable viral load in her blood. In absence of evidence to that effect, the conclusion that the act of pricking carried the likelihood of spreading an infection of any disease as is dangerous to life, was as well based on speculation and surmise, motivated only by the fact that the appellant was HIV positive. Similarly, this additional implied finding was based on inference drawn from a prior inference that was speculative. At all levels after the first inference, the trial court engaged in conjecture, making a series of findings of fact based only on speculation, without substantial proof.

[92] Conjecture is a theory based on a scintilla of evidence with only a slight degree of credibility. A supposition based on theory or opinion, without substantial evidence to support it. A finding of fact, of potential cause or occurrence, as suggested by another fact, which is too feeble to prove the finding. An inference based on conjecture cannot be used to make a legal determination. It is only when proof enters, that conjecture disappears. The evidence presented must be such that by reasoning from it, without resort to prejudice or guess, a court can reach the conclusion sought. Such evidence must be adequate to establish the conclusion sought and must so in favour of that conclusion as to outweigh in the mind of the court any other evidence and reasonable inferences therefrom which are inconsistent therewith. Mere conjecture or guess does not amount to proof, and a court's finding cannot be supported if it is based upon conjecture, guess or sympathy. The prosecution evidence cannot support a finding if in the opinion of the Court, it is so uncertain, or inadequate, or equivocal, or ambiguous, or

contradictory as to make findings or legitimate inferences therefrom a mere conjecture. Inferences may not be predicated upon mere conjecture.

[93] When in the instant case evidence left to speculation, conjecture or surmise the questions as to; (i) the type of pointed or other sharp edged implement that was used; (ii) as to whether the appellant had previously used that pointed or sharp edged implement on herself; (iii) as to whether it was thus contaminated with her blood; (iv) and as to whether she had a detectable viral load in her blood at the time, the conduct that posed a real risk of spreading an infection of a disease dangerous to life was cast in doubt. There cannot be conjecture or speculation about potential evidence that has not be submitted before the court. Inferences may only be made by the application of logic and sound reasoning to the available evidence. Inferences that are drawn without evidence are mere speculation since an inference cannot be based on another inference that is too remote or conjectural. Inferences may only be based on facts whose determination is the result of other inferences, so long as the first inference is based on such evidence as to be regarded as a proved fact and the conclusion reached is not too remote.

[94] The ultimate finding that the appellant had engaged in conduct likely to spread an infection of disease that is dangerous to life was unfortunately arrived at without evidence establishing the full range of complement of factors that can affect the risk of HIV exposure. That infection in the circumstances of this case is statistically significant and almost certain was never proved. The trial court instead relied on fanciful and remote implausible speculative findings of fact, the consideration of which raise only the possibility of infection being a likely result that is due to mere chance. An ultimate inference arrived at solely by piling inferences upon inferences which are unsupported by the proven objective facts cannot sustain a conviction. It is the determination of his court that the finding on this ingredient was arrived at by impermissibly pyramiding inferences not supported by the available evidence

iii The accused knew or had reason to believe that her conduct had that capacity.

[95] In the absence of overriding policy considerations such as strict liability, foreseeability of risk is of primary importance in establishing duty. It must be proved that either the accused actually knew that she was involved in behaviour that was likely to transmit an infection of any disease that is dangerous to the life to another person, or that a reasonable person in a similar situation would have appreciated the risk. In the latter case, that knowledge imputed to the accused is called "constructive" knowledge. If the accused did not have this knowledge, either actual or constructive, he or she cannot be held criminally negligent.

[96] A test similar to the "reason to believe" was applied in *John B. v. Superior Court (2006) 38 Cal.4th1177, at 1191*, involving the negligent transmission of HIV, where it was held that under the "reason-to-know" standard; "the actor has information from which a person of reasonable intelligence or of the superior intelligence of the actor would infer that the fact in question exists, or that such person would govern his [or her] conduct upon the assumption that such fact exists.." In other words, the actor has knowledge of facts from which a reasonable man of ordinary intelligence or one of the superior intelligence of the actor would either infer the existence of the fact in question or would regard its existence as so highly probable that his or her conduct would be predicated upon the assumption that the fact did exist. The constructive knowledge requirement holds responsible those who consciously avoid knowledge of infection even when suffering visible symptoms of a disease.

[97] Any circumstantial evidence, such as a previous diagnosis or an admission to another, could be used to show that accused was aware, or should have been aware, of the infectious nature of the act. The intentional failure to take steps to avoid knowledge of wrongdoing, amounts to constructive knowledge, and would offer no safe harbour *(see John B. v. Superior Court, 137 P.3d 153 (Cal. 2006),*

where a wife sued her husband alleging that the husband became infected with HIV first, as a result of engaging in unprotected sex with multiple men before and during their marriage, and that he then knowingly or negligently transmitted the virus to her).

[98] In order to show that the appellant breached her duty, the prosecution had to prove that she knew, or should have known, of the possibility of transmitting an infection of HIV by her conduct. Had the appellant been unaware of her own infection, or committed the act while asymptomatic and without reason to know of the risk, she could not have breached her duty of care. However, in this case, it was proved that the appellant was aware of her infection only that the prosecution failed to prove, beyond reasonable doubt, that she was involved in behaviour that was likely to transmit the infection to another person. Reasonable doubt is doubt based on uncertainty. The accused receives the benefit of all reasonable doubts and is acquitted whenever the possibility of his or her innocence remains after trial.

[99] Court may not convict an accused if it has a reasonable doubt about any element of the offence charged. Having found that the first two elements of the offence were not proved to the required standard, and that the evidence as a whole is susceptible of a reasonable alternative explanation, the conviction cannot stand. The appellant is entitled to be acquitted.

Order :

[100] In the final result, the conviction is quashed and the sentence is set aside. The appellant should be set free forthwith unless there are lawful reasons for keeping her in custody.

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Stephen Mubiru

Resident Judge, Gulu

Appearances

For the appellant : M/s Odongo & Co. Advocates and Uganda Network of Law Ethics and HIV/AIDS.

For the respondent : Mr. Patrick Omia, Senior Resident Senior State Attorney